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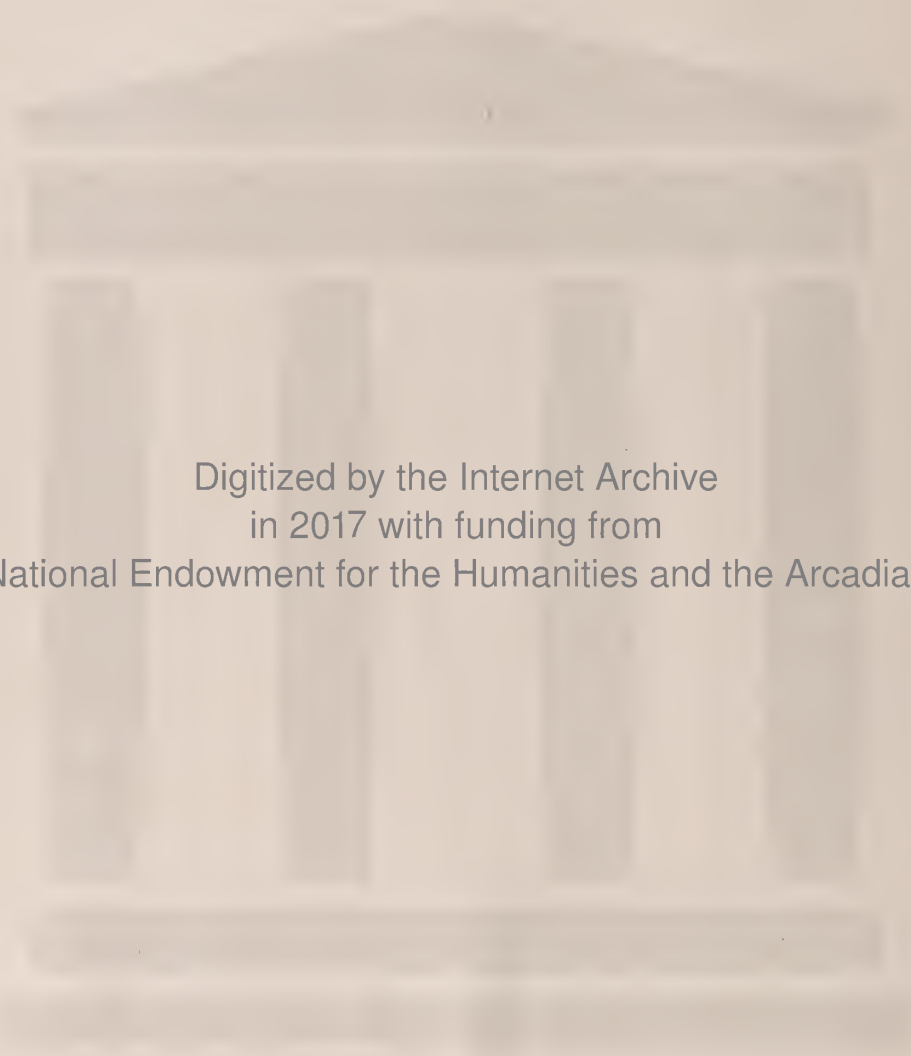


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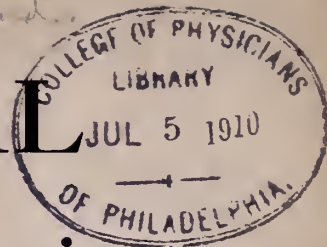
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THE JOURNAL

OF THE

Arkansas Medical Society



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VOLUME VII
No. 1

LITTLE ROCK, JUNE, 1910

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President Arkansas Medical Society, 1910-1911

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OF THE

Arkansas Medical Society

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VOL. VII.

LITTLE ROCK, ARKANSAS, JUNE, 1910.

No. 1

ADDRESS DELIVERED BY PRESIDENT
JAMES H. LENOW AT THE THIRTY-
FOURTH ANNUAL SESSION OF
THE ARKANSAS MEDICAL
SOCIETY, HELD AT LITTLE
ROCK, MAY 3-6, 1910.

To the Members of the Arkansas Medical Society, Ladies and Gentlemen:

Before entering upon the consideration of the subject selected for this occasion I desire to give expression to the deep sense of appreciation I feel for the distinguished honor you so graciously conferred upon me last year at Pine Bluff. The ambition to become president of such a splendid organization as this, certainly is not unnatural, and I must confess a feeling of pride not unlike or unequal to that experienced nearly forty years ago, when I stood a young candidate for the degree *Medicinae Doctor*, and had committed to my hands a precious blue beribboned parchment authorizing me to enlist with those whose profession was to wage war against the destructive and antagonistic forces of life and health.

The early history of medical organization in this state is intimately, and I might add inseparably, interwoven with the lives of such pioneers as Hooper, Welch, Holcomb, Duval, William M. Lawrence, Linthicum, J. A. Dibrell, Sr. and Jr., Cross, C. Watkins, Southall, Hurley, Barry, Peyton and Jennings, nearly all of whom have long since passed from earthly existence. But be it said with truth, and let history so record it, they left the impress of their exalted and unselfish labors so indelibly fixed upon the history of this society as to successfully defy "the fiery tongue of flame and the corroding tooth of time." By their indefatigable labors, unity of purpose and exemplification of the highest

professional ideals they contributed the fullest share toward the laying of the solid foundation upon which rests the present component state and national societies—the latter a federation that is destined to become a factor of the first magnitude in the universal scheme to uplift the human race and to confer physical, social and economic benefits upon man.

To me, naturally, the days of "Auld Lang Syne" are the most precious and hallowed, and from perspective's golden heights—clouded vision clarified by the potent distillate of Time—we are able to estimate at full and true value the altruism of those who, in 1870, launched the ship of organized medicine in this state—a sea whose shoals and depths had not been sounded, and whose shores were lined with unseen and dangerous rocks. For the nonce the waters ran smoothly and the sails were trimmed only to gentle breezes. An occasional gale deflected the course or impeded progress, but the consummate skill and lofty purpose of those at helm turned opposing elements to naught, and the craft plowed on. But alas and alack! An evil spirit had surreptitiously scattered the seeds of dissension in the hearts of some on board, and factionalism, the sinister progeny of envy and suspicion, and the daughter of a mutinous spirit, ran Marathon for control of wheel. Louder and louder became discord's blatant yell, and winds that had been tempered to unseaworthiness now became furious typhoons that rent asunder beam, and guy, and rigging. Contentious hands strove for supremacy of helm, and with mutiny below and division above, the craft split upon the sharp and jagged rock of discord and went down in the vortex of misunderstanding and misdirection. But, fortunately, the crew and officers were saved to a man, and the log-book and compass, priceless relics to those who love this history, were saved intact, and remain to tell

the story of the Medical Association of the State of Arkansas—born 1870, died 1875.

If from small beginnings great and lasting benefits often flow, so occasionally does the crooked finger of error point the way to wisdom's wide and pleasant plains and make for great accomplishments. It may truthfully be said that repeated failures are often the steps which lead up to the topmost rung of the ladder of success, and any great and noble cause, founded upon and grounded in the eternal principles of ethics, is as immortal as the human soul. But I can dwell no longer upon the past, with its memorable and sacred history, and pass on by saying that out of the old wreck a new and quickened spirit arose that defied the adroit machinations of the society politician; a unity of purpose and cohesion of unselfish interests that lent encouragement to the timid and strengthened the arm and ambition of the brave; a mellowed charity that tempered and soothed all asperities and animosities and made all collaborators and brothers in the endeavor to elevate the human race, conserve public health and promote professional and scientific interests.

"Buried was the bloody hatchet;
Buried was the dreadful war-club;
Buried were all warlike weapons,
And the war-cry was forgotten."

This society in which you now hold membership, and over which, by your kind graces I am permitted to preside, has had an unbroken reign of more than a third of a century, and the prophecy is entertained that as the years come and go, under the activating influence of advancing civilization, its powers and the scope of its influence will progressively increase. But its ideals must be preserved intact and its principles and traditions religiously adhered to in order to attain the highest efficiency. In the future, and the day is not far off, public health in all the states will be under the direction and control of health commissions, the members of which will be free of political entanglements and municipal obligations. Social and political economics can no longer be divorced from scientific medicine, for the fiat of general conservation has gone forth, and the nation's work is laid off for a thousand years to come.

The purposes for which this society was organized and the principles for which it stands are appreciated and understood only by those within its ranks. The laity have an

erroneous conception of the various health movements initiated by the medical profession; and the high commission committed to our hands by duty, the urgent needs of the people, and the obligations imposed by our faith, command us to frankly take the public into our confidence and insist upon an intelligent inspection of the work now being done in their interest. Publicity is the well recognized enemy of conscienceless trusts and corporations, and as our profession is supposed to possess certain proverbial closets in which hang snapping skeletons, let there be an opening of all the doors, and the public invited to inspect to their heart's content. Prejudice and misconception are usually counteracted by patient investigation, resulting in mutual understanding, and perfect agreement is possible only after earnest efforts have been made to let all the truth in, and all error out.

That there has existed, from time immemorial, an unwarranted estrangement between medical societies and the public, is a fact well known, but deplorable. The former have been regarded by the latter as organizations more interested in and bent upon the commercial development of their own members than upon the promotion of measures to successfully combat the ravages of disease. While this sentiment has in no way affected the commercial interests of the physician, it has been the greatest obstacle to needed medical legislation, and an unfortunate inhibition of the militant plan to lead the people out of the wilderness of their own sanitary and hygienic ignorance.

Achievements and beneficent results in all matters pertaining to the public health are in direct proportion to the digestive ability of the public organism, for ignorance is conspicuously suspicious and refractory, and refuses to be led faster than a snail's pace. He who would undertake the task of supplanting a popular error or medical superstition with light and truth, would require that quality and quantity of patience Job is said to have exhibited when wincing and writhing under the stinging tortures of Oriental furunculosis.

The relations which the physician bears to society are clear and well defined, and the obligations and duties imposed upon him by modern civilization and world-wide enlightenment make their intelligent and beneficent discharge the highest duty. These relations are exceptional because of the exalted char-

acter of the motive and the unselfish attitude assumed by the profession which the physician represents. Suppose the primal cause of all disease should be discovered and effective measures of prevention were instituted and enforced by police laws; suppose all the people were taught to obey the laws of sanitation and hygiene, and in course of time became naturally immune to all disease, what would become of the physician and his occupation? What would become of the millions of dollars invested in magnificent medical colleges and scientifically equipped laboratories? What would become of the factories now engaged in making surgical instruments and appliances, or of the numerous pharmaceutical houses supplying remedial agents? And yet when the supreme problems of preventive medicine are solved by scientific research, logically there will be "medical practices for sale and offices to rent"—a business condition which will tax the capacity of newspapers and rental agencies. But this is Utopian, and the fear of self-inflicted pauperization does not abide in the minds of those who live more for humanity than for self. Let those who fear that the universal killing of microbes will deprive them of their livelihood take encouragement, for it has been more than one hundred and thirteen years since Jenner discovered the preventive of smallpox, yet that disease wantonly stalks broadcast over our land, claiming its annual toll as a result of municipal stupidity and inertia. Typhoid fever claims its thousands of our young men and women, although the causative germ has long been known and the mode of infection well understood. The universal law of supply and demand will be in force as long as people have needs, over-eat and under-sleep, and there will never be a time when man will not be in need of medical advice and require personal attention, for which some physician will be able to exact a fee commensurate with the services rendered.

For half a century the trend of scientific medical research has been directed toward the discovery of the cause of disease, and no sooner has the laboratory announced a truth or nailed an error than it has been practically applied to the advantage of public health. Preventive medicine is the child of the laboratory, as vital conservation is the cry of outraged humanity. How to prevent, is of greater moment than how to cure, and I would rather know how to prevent one cancer of the breast than to be able to success-

fully operate on all the malignant tumors in the universe.

It is very clear that preventive medicine bids fair to become the most popular of public movements, and as it is so intimately connected with the movement of general conservation of health, one of the most virile topics before the American people today, vitalized by that transcendent citizen, Theodore Roosevelt, it will remain prominently to the front until its laws become the laws of government and its precepts administered by a public health department. The greatest danger to any salutary measure, yet in an uncrystallized state, is from astigmatic enthusiasm of over-zealous votaries. The pendulum must not be swung too far in advance of the times.

The general principles underlying the prevention of disease and national vitality are not yet quite sufficiently established to that degree as to command immediate and unconditional acceptance by the public, for public opinion always follows in the wake of professional importunities and scientific dicta. Sanitary science, the handmaid of the newer medicine, embraces a depth of knowledge wholly unfathomable by the great majority of physicians who are now doing personal practice, and the hope of the future lies in the readjustment of medical education to the advances made in all branches of science.

There is no subject in the whole domain of medicine that is more vital just now than that of medical education, for the future honor and dignity of the profession hang upon the proper solution of this question. There can be no denial of the statement that medicine has far outstripped all other sciences in the last half-century, and it would be easy to particularize, but this would involve the entire review of the history of medicine, a subject with which you are more or less familiar, and one which I have studiously endeavored to evade.

The scientific spirit is dominating medical thought throughout the world, and the curricula of our medical schools must conform sooner or later to the new order of things. Science is exacting, and frowns upon guesswork. A number of our best medical schools have raised the preliminary educational requirements for admission, and on account of enjoying large endowments the readjustment was easy. The "proprietary schools" are loath to depart from the old rut and fossilized methods, but there is a pressure, positive and active, originated by the component

societies of the American Medical Association and operating through the latter's Council of Medical Education, that will be felt in the plan to establish a uniform standard of medical education—satisfactory, we hope, to all interests.

Medical education has undergone almost a revolution in the last twenty years, and it would not be stretching the imagination too far to say that the end of the next two decades will furnish a retrospect as marvelous and interesting as the one enjoyed at this time. The days of the "professor-owned" college are numbered, as they should be, and in the future medical education will be embraced in the general educational system. Entrance requirements to our best schools will be raised to a decent height, and the curriculum will be elastic and more or less eclectic to meet the varied mental trend of students. Education is one of the most important functions of government, and by no hair-splitting logic can privately owned medical schools be justified in their continued existence and participation in medical education of the future. The law of the survival of the fittest will settle the question, as it has many others less knotty.

It is proper that in an address of this nature, and upon such an occasion, matters of more or less local interest and importance should receive due and extended consideration; but as such subjects naturally belong to the business of the House of Delegates, I included certain recommendations in my address to that body, thereby being enabled to keep the length of my remarks within the bounds of your patience.

I certainly am not insensible of the inconveniences to which many of you have been subjected, nor of the pecuniary loss you have sustained in journeying here to meet in annual session, but these annual meetings were of your own making, and duty directs you here. Your hands penned and your voices endorsed this cogent and altruistic preamble to our constitution, and, lest you forget, listen while I read:

"The purposes of this society shall be to federate and bring into one compact organization the entire profession of the State of Arkansas and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and to extend medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against opposition, and to enlighten public opinion in the great problems of state medicine, so that the pro-

fession shall become capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

You cannot reflect upon these sublime sentiments without a sense of satisfaction, and it should afford you decided pleasure to be able to contribute by your presence and counsel to the success of these meetings. Your duty is here to direct the society in the line of greatest usefulness, and to see that no sinister motives subvert its lofty purposes. Medicine is a jealous mistress, and demands unremitting loyalty and affection of those who worship at her shrine.

The statutes of a commonwealth are representative of the average intelligence of its citizens, and no community is further advanced than the laws or rules by which it is governed. "Let me read your statutes and I will tell you the sentiments of your people," some wise one has said. With reference to sanitation and public hygiene, this expression is especially true. The public health laws in this state are practically negative. There is not one effective law in our statutes, now in force, which could be promptly invoked to save a life from preventable disease. The Pure Food law is possibly an exception. For years our statutes have provided for a State Board of Health endowed with certain powers, but the anomalousness of the situation lies in the fact that not one dollar has ever been appropriated with which it might carry out the purposes of its existence. The possibilities for good of a properly equipped State Board of Health are beyond the comprehension of the public. If the time limit of my remarks permitted I should like to apply to this state statistics gathered from other states similarly situated. It is enough to say that the loss to the state and its citizens from fires, floods and tornadoes would be insignificant as compared to the loss of life, disability, suffering and sorrow caused by communicable and preventable diseases.

What exactions do typhoid fever, malaria, smallpox, tuberculosis and hookworm disease make on our citizens? Each of these diseases is preventable, and when their causation is disregarded and the conditions which are responsible for their transmission allowed to exist unmolested, it would not be stretching the truth too far to suggest that the State is guilty of "technical manslaughter."

Ten thousand persons die annually in Illinois from tuberculosis. A human life has been estimated to be worth, in money value,

\$5,000.00, and it costs that state annually \$50,000,000.00 to bury its consumptives. Pittsburg, with a population of 500,000, paid over \$3,000,000.00 for an epidemic of typhoid fever in 1906. In Minnesota, in 1906, 27,876 persons were infected with smallpox, yet Jenner discovered vaccination in 1797. If the exact number of cases of hookworm disease in the South were known the figures would stagger the vital statistician. We have no state law authorizing the collection of vital statistics, therefore it is impossible to give any definite data, but it is safe to say if there could be a strict enforcement of the well-known laws of sanitary science and public hygiene with respect to tuberculosis, typhoid fever, malaria, smallpox and the hookworm disease, there would be enough money saved in five years to build a high school at every county site, to construct a system of macadamized public highways from the capital city to every county site in the state, and then there would be enough left, after paying the health officers generous salaries to drain every swamp in Arkansas and put a solid silver done on our new State Capitol. If it is socialism for the state to halt the pale-faced army of consumptives who are daily marching to their untimely graves and set their feet in the roads to public sanatoria at which they may regain their health; if it is socialism for the state to pluck the stupid stare from the sad eye of the hookworm subject and put energy in his muscles, opening to him the hitherto closed doors of society and a life of usefulness; if it is socialism to say that the skins of our fair sons and daughters shall no longer be sprinkled with the everlasting scars of smallpox because of compulsory vaccination laws and free distribution of virus, then make the most of it, and may God hasten the day when sanity and sanitation shall sit upon the throne and rule over our people.

There need be no fear of a conflict with other states, or with the Federal government, as long as a state does its duty and does not become a nuisance or a menace to its neighbors. The doctrine of States' Rights has done much to retard the control of contagious and communicable diseases in the South, and only when the state has shown its incompetence to handle epidemics and exhibited indifference to the interests of public health has the Federal government been allowed to assume control. Not until the Marine Hospital Service took control of the situation was New Or-

leans able to be freed of yellow fever. A state has no more right to become a menace to another state, or to the federation of states, than an individual has to maintain a nuisance on his private premises to the danger and health of his neighbors; and the time is now at hand when the states will be driven to the adoption and enforcement of laws governing certain communicable diseases. Let us take time by the forelock, and in the spirit of conscious duty rather than from driven and extrinsic force, place the department of public health upon a scientific basis. The fruition of the hopes of preventive medicine may ultimately mean professional suicide, but it will mark the beginning of the millennium of good health, happiness and prosperity: pure food, pure air and pure water should not be denied the poorest citizen.

The necessity of the regulation of the practice of medicine and the prevention of gross medical abuses are apparent to every physician, but more or less opposition—usually more than less—has always been shown by legislative bodies to the enactment of health measures promulgated by medical societies, notwithstanding those measures were proposed in the sole interest of public health and to protect the ignorant and credulous from the arts and intrigues of the conscienceless charlatan and medical mountebank. It is quite possible that medical legislation has often failed as much from the over-zealousness and lack of diplomacy of its promoters as from the reputed ignorance and indifference of lawmakers to public health requirements. A good game is often lost by lack of skill of those who hold the winning hand.

Legislators are merely laymen advanced to political positions, and the laying down of the ploughshare, the hammer, the yardstick and the brief for a seat in legislative halls does not imply that a senator possesses scientific knowledge of the laws of public health, and this fact should not be overlooked in any attempt to influence medical legislation. Patience, persuasive force and education are the antitheses of haste, passion and presumption, and sweetened water will catch more flies than vinegar. Let us believe our legislators are disposed to do right and address our efforts upon this presumption, and it will be less hard to pass wholesome medical laws in the future.

The last General Assembly passed a medical act which will forever place the people and the profession under lasting

obligations. Arkansas now has one of the best laws governing the practice of medicine in the United States, and with a few amendments it will serve our purposes for an indefinite period. Its strict enforcement will silence the itinerant "specialist" and the domiciliary charlatan who advertises "to cure chronic and incurable diseases without pain or cutting." The fructuous fields from which they have long reaped golden harvests will hanceforth be closed to these "undesirable citizens," and the places which have known them will know them no longer.

The constitutionality of that part of the law which prohibits these unscrupulous quacks and medical excrecences to flagrantly and unqualifiedly advertise in the public press has unfortunately been adversely decided upon by one of our chancellors, and, although the decision is strained and is palpably in the interest of the worst type of medical parasites with which the body politic is infested, there is hope of a reversal of the lower court's opinion by the Supreme Court, thus upholding a law which protects the credulous and ignorant.

The present advanced state of modern medicine is traceable to scientific research workers in medical laboratories, and to prescribe hard-and-fast rules, or to place even gentle restrictions upon scientific investigation is to set a blister upon the brow of science and to turn back the hands of progress. The agitation against animal experimentation had its origin in England many years ago, and by slow degrees has spread to America and is planting its iniquitous roots in our soil. If its false and pernicious doctrines are allowed to grow unchallenged it will not be many years before an iron bar will be placed against the door of every laboratory for the investigation of disease through operations and experiments on lower animals. The triumphs of medicine are the result of laboratory investigations, and these deluded opponents of science, this morbid brigade of trousered women and skirted men—the antivivisectionists—are cruelly ignorant of the benefactions conferred upon humanity by the discoveries of Pasteur, Lister, Koch, Behring, Flexner, Stiles and Carrel. The horse, the cow, the rat, the rabbit and the dog have been sacrificed upon the altar of pure science for humanity's sake, and I doubt not that if these dumb animals could speak from their martyred graves to these "abnormalists" and ultrasentimentalists they would say, "Stop thy senseless propaganda!"

I would rather have been that noble horse who first shed his blood in the interest of baby-world, whose serum, pregnant with units of antitoxin, has almost robbed diphtheria of its mortality, and will ultimately palsy the hand of the tracheotomist; I would rather have been that gentle cow whose ulcerous udder pointed the immortal Jenner to the discovery of vaccination, the perfect preventive of the most loathsome disease with which the human race has been scourged since the remotest days of antiquity; I would rather have been that despised and outlawed rat, who, with its bloody and infected guest, gave up the secrets of bubonic plague, paved the way for the prevention of the disease by the extermination of its race, and supplanted the candles and crucifix with the vaccine of Haffkine; I would rather have been that kind-eyed, velvet-skinned rabbit who suffered his spine to become the potent instrument in the hands of Pasteur by which hydrophobia was conquered and the victims of rabies saved from a death of hell and torture; I would rather have been that affectionate dog who suffered his bowels cut in twain, his skull trephined, his blood-vessels ligated and stitched, and even his organs transplanted, that the surgeon's art might become the crowning glory of the twentieth century; I would rather have been that pink-eyed guinea pig who vicariously demonstrated to Robert Koch the pathological processes of tuberculosis, which enabled him to open up the new world of pure air and sunshine to the hopeless and cadaverous consumptive, and in the name of pure science and humanity commanded the bacilli to stand still, and they stood still;—I say, I would rather have been the lowliest of these dumb creatures than to be the editor of that great and influential daily newspaper whose columns have been polluted by infamous calumnies directed against the Rockefeller Institute for Scientific Research. I would rather have been that impaled frog who solved the mysteries of the nervous system than to be Mr. Coleridge, the imported apostle of the hysterical propagandists of "antivivisection," now visiting this country, the adored and worshiped god of sycophants and neurotics.

The adage, "An ounce of prevention is worth a pound of cure," is a fragmentary bit of good old philosophy which every man should wear under his hat brim. To "lock the stable door after the horse is stolen" does not bring back the horse, but implies a lack

of foresight on the part of the owner. Our urgent duty is to take the public into our confidence, meet the false statements with unvarnished truths, open up bureaus of official information available to the public and pre-educate them in advance of any attempts to limit the freedom of scientific research with legislative restrictions. "Forewarned is fore-armed."

In concluding this rather too prolix address,

permit me to express the hope that this society will continue to merit public favor by its future contributions to science; and you, its loyal members, may, each of you, enjoy to the fullest measure the rewards of his professional labors. With a heart swelling with gratitude for the honor you have conferred upon one of your most unworthy fellows, I close with the cheery words of Rip Van Winkle, "May you live long and prosper."

THE JOURNAL

OF THE

Arkansas Medical Society

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Edited by
C. P. MERIWETHER, M. D.

307-8 Southern Trust Building, Little Rock, Ark., to whom all communications should be addressed.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

Editorials.

THE LITTLE ROCK MEETING OF THE THIRTY-FOURTH ANNUAL SESSION OF THE ARKANSAS MEDICAL SOCIETY.

The Thirty-fourth Annual Session of the Arkansas Medical Society was held in the convention hall of the Hotel Marion, Little Rock, May 3, 4, 5 and 6, 1910. The meeting was pronounced the best in the history of the society. The attendance was more than double that of the previous meeting. Harmony and the best of feeling prevailed throughout. The scientific papers, covering a wide range of subjects, were clearly and

ably presented and extensively discussed.

Among the visitors present we might mention Dr. Jabez N. Jackson, of Kansas City, who contributed a highly instructive treatise on a condition new to most practitioners, which he styled "Membranous Pericolitis." Dr. Charles Wardell Stiles, of the United States Marine Hospital and Public Health Service, Washington, D. C., gave a lecture on "Hookworm Disease," which he profusely illustrated with stereopticon views. Dr. H. N. Crossen read an essay on "Severe Cases of Prolapsus Uteri," detailing the latest and most approved methods of treatment. Dr. D. E. Broderick, of Kansas City, read an essay on "Empyema in Children." Dr. Pet- tey, of Memphis, was also among the number of physicians from other states.

During the meeting, and for a week following it, Exhibit No. 2 of the National Association for the Study and Control of Tuberculosis was open to the public at a central point on Main Street. Lectures were given every evening by local physicians. A very instructive campaign of education was thereby inaugurated.

Fort Smith was selected as the next place of meeting.

In the House of Delegates that great bone of contention which annually confronts us, namely, the admission of the undergraduate, was disposed of by that body deciding that it was inexpedient.

The society donated the sum of \$500 toward the campaign against tuberculosis in this state.

The by-laws were amended, permitting the Council to fill vacancies from the number in attendance from the various county societies when the regular delegates and alternates fail to attend the meeting.

Anderson Watkins offered a resolution asking that the society appoint a committee to act upon the proposition of the University of Arkansas, medical department, to turn over to the state its property and equipment for a school to be conducted as a state institution, to be under control of a non-partisan board of trustees. This was adopted without dissent, and the Committee on Medical Legislation was instructed to prepare a suitable bill and endeavor to have it enacted at the next session of the legislature.

A most pleasant and enjoyable function was the reception to President Lenow at the Hotel Marion, which was a pronounced social success. Refreshments were served,

dancing was indulged in, and a general genial good time was had.

The session closed with a banquet Friday night, which was well attended. The toastmaster, Dr. Vinsonhaler, handled the affair in his usual happy style, and the program proceeded without the slightest hitch.

The Alumni Association of the University of Arkansas held its annual reunion in the banquet hall of the New Capital Hotel on the evening of May 3.

A banquet was given in one of the private dining rooms of the Hotel Marion on Tuesday evening, May 5, to the alumni of Tulane University, and was a most enjoyable affair.

OUR PRESIDENT.

In the selection of president for the coming year the society has chosen one who has been identified with organized medicine all of his professional life, and whose work in his own community has demonstrated his ability, not only as a man of the highest integrity and resourcefulness, but as a physician who holds the respect of the entire profession of the state. He comes from a family of doctors. His father and three brothers were doctors of the first rank.

Robert C. Dorr, M. D., was born in Richland, Iowa, August 5, 1858. His father moved to Jacksonport, Ark., in 1870. His early schooling was received in the public and private schools of Jacksonport. He began the study of medicine in his father's office at an early age, and was graduated from the Mis-

souri Medical College (now a part of the medical department of Washington University), of St. Louis, in the class of 1883. Dr. Dorr located in Independence County and began the practice of medicine, which he has actively followed since—twenty-seven years. During this time he has been a hard student, taking advantage of every opportunity to do postgraduate work in all the large clinics of both this country and Europe.

Dr. Dorr is modest and unassuming, ever the friend to the struggling student and young physician; kind and gentle, but as courageous as a lion.

Dr. Dorr will give to the Arkansas Medical Society an administration that will reflect credit to the profession of the state.

THE JOURNAL.

It will be my endeavor to make the Journal just as good as the members of the Arkansas Medical Society wish it. I can determine the character of the Journal you wish by the amount of coöperation and help I receive from you.

PRESIDENT'S ADDRESS.

On the first page of the Journal will be found the address of our retiring president, Dr. James H. Lenow. It abounds in words of wisdom, and ranks as one of the best annual addresses ever delivered before the Arkansas Medical Society.

PROCEEDINGS OF THE LITTLE ROCK SESSION.

MINUTES OF THE THIRTY-FOURTH ANNUAL SESSION OF THE ARKANSAS MEDICAL SOCIETY, HELD AT LITTLE ROCK, MAY 3-6, 1910.

House of Delegates.

FIRST MEETING, TUESDAY MORNING, MAY 3.

The House of Delegates was called to order at 9:00 a. m. by the president, Dr. J. H. Lenow, Little Rock.

Prayer was offered by Rev. William DuHamel, of Little Rock.

A roll-call showed thirty delegates present and entitled to seats.

Dr. St. Cloud Cooper, of Fort Smith, moved the adoption of the minutes of the previous session, as printed in The Journal. The motion was seconded and carried.

APPOINTMENT OF COMMITTEES.

The president appointed the following committees:

Resolutions Committee—Leonidas Kirby, Harrison; J. G. Eberle, Fort Smith; Henry Thibault, Scott.

Reference committees:

On President's Address—E. C. Hay, Hot Springs, chairman; H. Hardy, Stroud; C. S. Pettus, El Dorado.

On Scientific Work—L. J. Kosminsky, Texarkana, chairman; St. Cloud Cooper, Fort Smith; W. P. Parks, Mena.

On Public Policy and Legislation—J. J. Morrow, Cotter, chairman; O. R. Keely, Arkadelphia; L. H. Barry, Hot Springs.

PRESIDENT'S ADDRESS.

President Lenow delivered the following address:

"To the Members of the House of Delegates of the Arkansas Medical Society:

"It gives me pleasure to formally open the thirty-fourth annual session of this society, and I trust this meeting will prove a landmark in its history. It is your duty to foster the scientific work and spirit of the

society,' and you should constantly study and strive to make each annual session a stepping-stone to future ones of higher interest. Your duties are clearly defined by the constitution and by-laws, and I would urge you to observe well the obligations imposed upon you.

"Many important matters are awaiting your consideration and deliberation, and tolerance should mark your labors. I have a few suggestions I beg to make, and if they seem to appeal to you as worthy of consideration you will take such action as their importance demands.

MEDICAL PRACTICE ACT.

"1. Public health is now, as it will always be, one of the most important subjects with which we have to deal, and to afford that protection to the people which by their inalienable rights they should have, effective laws must be passed and enforced, by which this end may be obtained. I am urging you to instruct the Committee on Medical Legislation to watch carefully the fate of our new medical practice act, and in the event an adverse decision is rendered by the Supreme Court, to use their best efforts and influence to have such amendments passed by the next legislature as shall insure its integrity.

STATE DEPARTMENT OF PUBLIC HEALTH.

"2. I would have you instruct the Committee on Medical Legislation to present to the coming legislature a bill creating a State Department of Public Health. Of course a vital statistics bill should also be presented, and there is no more important measure than this to occupy your attention. This department should receive a sufficient appropriation to enable it to do efficient work. A state pathological laboratory should be established, in which free examinations could be made for physicians. A bill properly

drawn, and comprehensive, would cover all the above features and put public health matters under one head.

SUPPLEMENT ROCKEFELLER DONATION.

"3. In view of the unselfish gift of one million dollars, made by Mr. John D. Rockefeller, to be used in the eradication of the hookworm disease in the South, I would urge the Committee on Medical Legislation to induce the legislature to make an appropriation supplementary of the amount appropriated for this state by the commission. The state should bear one-half of the burden in this attempt to free its infected citizens of a disabling but preventable disease, and our interest in the eradication and prevention of the disease should not be less than a non-citizen.

THE TUBERCULOSIS SANATORIUM.

"The tuberculosis sanatorium will soon be in operation, but the appropriation made for its maintenance will not be sufficient to meet its requirements, and it will be necessary for this society, through the proper committees, to see that the legislature does not neglect to care for this great enterprise.

DEPARTMENT OF PUBLIC HEALTH.

"Apropos of the efforts now being made by the Committee on Medical Legislation of the American Medical Association to have a bill passed in Congress creating a Department of Public Health, a resolution should be prepared endorsing the movement and memorializing our representatives in Congress to give their support to the bill.

MEMBERSHIP.

"In view of the slight decrease in membership, when reports show a progressive increase from year to year, I am suggesting that you appoint a committee to make a thorough investigation to determine the cause of such a condition; said committee to make its report to the Council September 1, 1910. It also appears that scientific interest in the state is not as alert as a few years ago, and a thorough investigation of the work done by the component societies should be included in the work of this committee. There are fewer councilor district meetings than formerly, whereas there should be more.

RECOMMENDS FISCAL DATE.

"I especially desire to call your attention to the need of fixing January 1 as the beginning of the fiscal year, and I would recommend an amendment to the constitution to this effect. Until such an amendment becomes a law, a resolution declaring January 1 as the beginning of the fiscal year should be adopted at this meeting.

"There are four amendments to the constitution and by-laws which are to be acted upon at this meeting, and, on account of the great importance of two of them, I would urge you to exercise great wisdom in their disposition.

"I desire to call your attention to the reports of the various standing and special committees, and to take such action as in your judgment will redound to the interest of the profession.

"I ask you to bear patiently with me in my attempts to preside over you, and assure you that my rulings will be purely without favor. You will now proceed to transact the business before you."

Dr. Eberle, of Fort Smith, moved that the address be referred to the Reference Committee. Carried.

REPORT OF THE CHAIRMAN OF THE COUNCIL.

Dr. J. C. Wallis (Arkadelphia)—I have received reports from only three of the councilors, and am unable at this time to make a complete report, therefore ask for further time.

The request was granted.

RESOLUTION TO MAKE THE MEDICAL DEPARTMENT, UNIVERSITY OF ARKANSAS, A STATE INSTITUTION.

Dr. Anderson Watkins (Little Rock)—I desire to introduce the following resolution:

"Whereas, The standard of medical education is advancing so rapidly that the unendowed schools are at a disadvantage in the teaching of medicine; and

"Whereas, The medical department of the University of Arkansas has labored faithfully for thirty-one years to advance the cause of medicine and attain a proper standard without any financial assistance from the state; therefore, be it

"Resolved, That the medical department should be taken under the wing of the University of Arkansas by the following plan:

The medical school should turn over to a properly appointed board of trustees of the university all its money, property and equipment. The board of trustees should govern the school as other departments of the university, including the appointment of the faculty. The legislature of Arkansas should maintain the school by annual or biennial appropriations; and be it further

“Resolved, That the Committee on Public Policy and Medical Legislation is instructed by this House of Delegates to draft and advocate a suitable bill, to the effect of the above, in the next session of the Arkansas legislature.”

Dr. E. P. Bledsoe (Little Rock)—I move the resolution be referred to the Committee on Resolutions. Carried.

TREASURER'S REPORT.

The treasurer presented his annual report, as follows:

To the Members of the House of Delegates of the Arkansas Medical Society:

As your Treasurer I beg to submit the following as my annual report:

RECEIPTS.

1909.	
June 8. To amount received from former Treasurer	\$1,099.63
July 27. To check from Morgan Smith, Secretary	190.00
November 5. To check from Morgan Smith, Secretary	175.00
December 21. To check from Morgan Smith, Secretary	50.00
1910.	
January 17. To check from Morgan Smith, Secretary	80.00
February 22. To check from Morgan Smith, Secretary	44.31
March 10—To check from Morgan Smith, Secretary	90.00
April 9. To check from Morgan Smith, Secretary	210.50
April 27. To check from Morgan Smith, Secretary	800.00
May 3. To check from Morgan Smith, Secretary	1,037.66
Total.....	\$3,777.10

DISBURSEMENTS.

June 5. By Warrant No. 200, to Morgan Smith, Secretary.....	\$ 600.00
June 5. By Warrant No. 201, to Morgan Smith, Secretary.....	33.00
June 5. To Warrant No. 202, to Spott & Jefferson	25.00
June 14. By Warrant No. 203, to F. S. Overton	30.35
June 14. By Warrant No. 204, to Parkin-Longley Co.....	7.35
June 16. By Warrant No. 205, to W. S. Holt, postmaster.....	10.00

June 16. By Warrant No. 206, to Dr. W. T. Lowe, Secretary.....	4.00
June 21. By Warrant No. 207, to S. W. Tel. Co.	3.55
June 25. By Warrant No. 208, to George Hughes	12.50
July 2. By Warrant No. 209, to Central Printing Co.	143.30
July 22. By Warrant No. 210, to Central Printing Co.	140.94
August 12. By Warrant No. 211, to Morgan Smith, Secretary.....	5.00
September 8. By Warrant No. 212, to Central Printing Co.....	84.55
October 2. By Warrant No. 213, to Central Printing Co.....	92.50
November 2. By Warrant No. 214, to Central Printing Co.....	92.15
December 6. By Warrant No. 215, to Noel Loeb.....	63.80
December 20. By Warrant No. 216, to Central Printing Co.....	50.00
1910.	
January 14. By Warrant No. 217, to Central Printing Co.....	80.00
February 4. By Warrant No. 218, to Morgan Smith, Secretary.....	5.00
February 10. By Warrant No. 219, to Geo. F. McLean .....	.75
February 18. By Warrant No. 220, to Central Printing Co.....	44.31
February 21. By Warrant No. 221, to Central Printing Co.....	85.75
February 28. By Warrant No. 222, to W. S. Holt, postmaster.....	10.00
March 7. By Warrant No. 223, to Central Printing Co.....	85.85
April 5. By Warrant No. 224, to Morgan Smith, Secretary.....	7.00
April 7. By Warrant No. 225, to Central Printing Co.	111.00
April 20. By Warrant No. 226, to F. S. Overton	26.70
April 21. By Warrant No. 227, to Morgan Smith, Secretary	15.00
Total.....	\$1,869.35
Balance on hand.....	\$1,907.75

Respectfully submitted,

JOHN S. WOOD, Treasurer.

On motion of Dr. J. J. Morrow, of Cotter, the report was referred to the Council.

REPORT OF THE SECRETARY.

The secretary presented his annual report, as follows:

To the Members of the House of Delegates of the Arkansas Medical Society:

Your Secretary begs to submit the following as his annual report:

There are sixty-two organized and working component societies in the state, the last one to be admitted being Montgomery, with a membership of six members. Dallas County was reorganized and has been granted a charter. The total membership of all the component societies is 897. There are a few component societies yet to report, and this number will be slightly increased.

I am still impressed with the necessity of having the fiscal year terminate with the old and begin with the new calendar year, and would urge the Council to take the necessary action to bring about a uniformity of date for the election of officers of com-

ponent societies and the collection and remittance of State Society dues. I believe that if this is done it will increase our membership at least 10 per cent the first year.

Financial Statement.

The following will show the receipts and disbursements passing through my office:

RECEIPTS.

Receipts from May 17, 1909, to May 3 inclusive, 1910.

Amount received from all sources.....	\$2,677.47
Sources of revenue as follows:	
(a) From advertisements in Journal.	
(b) From membership dues.	
(c) From subscriptions to Journal.	
Amount received from advertisements.....	684.47
Amount received from subscriptions.....	4.00
Amount collected from membership dues....	1,989.00
(a) From May 17, 1909, to Jan. 1, 1910....	195.00
(b) From Jan. 1, 1910, to May 3, 1910....	794.00
Total receipts.....	\$2,677.47

DISBURSEMENTS.

Disbursements from May 17, 1909, to May 3, 1910

Warrant No. 200—Secretary's salary.....	\$ 600.00
Warrant No. 201—Stenographer's bill (allowed by the Council).....	33.00
Warrant No. 202—Spott & Jefferson (medal, Arkansas Medical Society).....	25.00
Warrant No. 203—F. S. Overton, stenographic services	30.35
Warrant No. 204—Parkin & Longley (ledger and stationery).....	7.35
Warrant No. 205—W. S. Holt, postmaster (postage)	10.00
Warrant No. 206—W. T. Lowe, Secretary, Pine Bluff; janitor service, thirty-third annual session, Pine Bluff.....	4.00
Warrant No. 207—Southwestern Tel. & Tel. Co., long distance messages, account thirty-third annual session.....	3.55
Warrant No. 208—Geo. Hughes, advertising agent (commission on Kathrin Storm's advertisement)	12.50
Warrant No. 209—Central Printing Co. (June Journal)	143.30
Warrant No. 210—Central Printing Co. (July Journal)	140.94
Warrant No. 211—Secretary (postage).....	5.00
Warrant No. 212—Central Printing Co. (August Journal)	84.55
Warrant No. 213—Central Printing Co. (September Journal)	92.50
Warrant No. 214—Central Printing Co. (October Journal)	92.15
Warrant No. 215—Noel Loeb (stenographic services, account thirty-third annual session, Pine Bluff.....	63.80
Warrant No. 216—Central Printing Co. (November Journal, partial payment; balance due \$35.30).....	50.00
Warrant No. 217—Central Printing Co. (December Journal)	80.00
Warrant No. 218—Secretary (postage).....	5.00
Warrant No. 219—Underwood Typewriter Co. ribbon) .....	.75
Warrant No. 220—Central Printing Co. (balance on November Journal and stationery)	44.31
Warrant No. 221—Central Printing Co. (January Journal)	85.75

Warrant No. 222—W. S. Holt, postmaster (postage)	10.00
Warrant No. 223—Central Printing Co. (February Journal)	85.80
Warrant No. 224—Secretary (postage and stamps)	7.00
Warrant No. 225—Central Printing Co. (March Journal, \$89.30; blank reports, letter heads and paper, \$21.70).....	111.00
Warrant No. 226—F. S. Overton (stenographic services, account thirty-third annual session, Pine Bluff).....	26.70
Warrant No. 227—Secretary (stamps and postage and programs).....	15.00
Total.....	\$1,869.35

I wish to acknowledge many favors extended me by the officers and members of component societies, without whose cooperation the duties of this office would be greatly multiplied.

Respectfully submitted,

MORGAN SMITH, Secretary.

Referred to the Council.

REPORT OF ARRANGEMENT COMMITTEE.

Dr. F. Vinsonhaler (Little Rock)—As chairman of the Committee on Arrangements I desire to say that this evening there will be a smoker at the Capital Hotel, given by the Alumni Association of the Medical Department of the University of Arkansas. Tomorrow evening there is to be, in this hall, a symposium on the hookworm disease. Thursday afternoon there will be a matinee at the Majestic Theater for the doctors' wives, and we will be glad to have all attend. They will meet the committee in the ladies' room upstairs, who will furnish them tickets and accompany them to the theater. Thursday night there will be a reception in this hall from 9:00 until 12:00, given by the society in honor of the president, to which all are invited. Friday afternoon there will be a reception at the Country Club for the doctors' wives. A musical program will be rendered. A special car will leave in front of the Marion Hotel, precisely at 3:00 o'clock, and all of the ladies are expected to attend, and we hope they will all do so. They will have the pleasure of hearing some very excellent music and see the extent to which Little Rock has grown. They will probably be taken very close to Hot Springs. Friday evening the Pulaski County Medical Society and the citizens of Little Rock will give a banquet to the members of the Arkansas Medical Society. We hope every member will remain over. There will be a special committee appointed to take care of those who do remain over and see that they get their trains in the morning.

On motion, the House of Delegates adjourned until 2:00 p. m.

SECOND MEETING—TUESDAY AFTER- NOON, MAY 3.

The House of Delegates was called to order by the president, Dr. Lenow. A roll call showed a quorum present.

REPORT OF COMMITTEE ON SCIENTIFIC WORK.

Dr. Anderson Watkins (Little Rock)—In the absence of the chairman, we desire to submit the following:

"Mr. President and Members of the House of Delegates:

"We, the undersigned members of this committee, wish to report as follows:

"We were unable to get in touch with the third member of this committee, getting no response to letters from each of us touching matters coming under our supervision, so, therefore, in January we took it upon ourselves to arrange, by the help of the various section officers and by correspondence with eminent men from abroad, the program as presented to you for adoption.

"We desire to recommend that the succeeding committee should meet not later than three months from this session of the Arkansas Medical Society and outline the scope of the scientific program for the next annual meeting. Inasmuch as this committee is probably in a better shape to measure the movements and to perfect a balanced program than the individual section officers, we believe that the latter should coöperate with the committee and arrange the sections largely at its suggestion.

"ANDERSON WATKINS,
"MORGAN SMITH."

Dr. H. Thibault (Scott)—To what extent does the report propose to restrict the officers of the sections in selecting and getting papers for the particular sections that they will be read in? What duties will be left to the secretary, for instance, of the Section on Practice of Medicine, if the entire control of the scientific program is turned over to the Committee on Scientific Work? The Committee on Scientific Work should have something to do with the correlation of the papers after they are brought together, for the arrangement of the final program has

to be done by somebody. Whether the Committee on Scientific Work has now the proper control of the section is a question I am trying to get at. How much power does the committee want, and how much does it want to restrict the officers of the sections?

Dr. Anderson Watkins (Little Rock)—In answer to Dr. Thibault, and I am not speaking as a member of the next committee, because the present committee dies with this session, we do not need any more power. It was merely suggestive. We certainly do not want to control the section officers, nor to say who should and who should not write a paper. We want coöperation, and have no desire to control.

Dr. Thibault—The reason I asked the question was, one of the section officers wrote to a physician here in Little Rock, some time early in the year, asking for a paper for his section, and after a month or two he gave him the title of the paper and was prepared to read it at this meeting, and he accepted it. Several months afterwards this physician received a notice from the chairman of the section stating that he received a letter from one of the members of the Committee on Scientific Work stating that he had no authority to accept any paper, and therefore he would have to withdraw his acceptance of the paper. I don't know anything about the circumstances of this case, and I got this information from the man who prepared the paper, and not from the section officer.

Dr. Watkins—I know nothing personally about this case.

Dr. E. C. Hay (Hot Springs)—It seems to me that the chairman and secretary of any section should have the right to make up the program themselves, just like they do in the American Medical Association. Then probably they might submit it to the Committee on Program for their approval. I don't think the Committee on Program should have the right to dictate. It looks to me like they should coöperate and get together, and not dictate who should and who should not. I think it should not be anything more than just a consulting committee, and not to dictate, because if a man is appointed as chairman he should have the ability to get up a very interesting program. If he is incompetent he should not be selected.

Dr. E. P. Bledsoe (Little Rock)—I move this be referred to the proper committee.

Carried.

REPORT OF COMMITTEE ON PUBLIC POLICY AND MEDICAL LEGISLATION.

"To the Members of the House of Delegates of the Arkansas Medical Society:

"The legislature did not meet during the past year, and this committee had nothing to do in the way of helping to pass laws to benefit humanity.

"We have a number of measures we would like to see become laws in this state, and respectfully submit them to the Arkansas Medical Society for approval.

"First. We wish this society to endorse the Owen bill, No. 6049, a bill now pending in Congress for the establishment of a Department of Public Health.

"Second. We would like to see a law passed by our legislature to make it the duty of every physician, medical student or midwife in attendance at the birth of a child to instill into the eyes of the child, immediately after birth, a suitable prophylactic for ophthalmia neonatorum.

"Third. The establishment of a Pasteur institute. This could be done at little cost to the state, and as long as the state is infested with so many dogs there is a great need for such an institution.

"Fourth. The state should make suitable provision for its feeble-minded.

"Fifth. A law requiring registration of births and deaths.

"Sixth. A law to exempt from prosecution any woman who shall testify against a physician as having induced an abortion on her.

"Without argument we submit the foregoing, and trust that this society will see fit to use its influence in behalf of these measures for the betterment of the inhabitants of this state.

"Respectfully submitted,

"ST. CLOUD COOPER, *Chairman*;

"GEO. S. BROWN."

The report was referred to the Reference Committee on Public Policy and Medical Legislation.

REPORT OF COMMITTEE TO PERFECT AN ORGANIZATION FOR THE STUDY AND CONTROL OF TUBERCULOSIS.

The next number on the program was the report of the Committee to Perfect an Organization for the Study and Control of Tuberculosis, Dr. J. S. Shibley, Paris, chairman.

The Secretary—As I understand, this committee was dissolved at the last meeting at Pine Bluff, although the minutes do not show it. But as Dr. Shibley is present, I am sure the society would like to hear from him.

Dr. J. S. Shibley (Paris)—As the secretary has stated, the committee was discharged from service one year ago at Pine Bluff. I would like to state, however, that the Association for the Relief and Control of Tuberculosis that was organized by that committee has not done much. That is an association on paper, without any means with which to operate. The first year that we were appointed, and that was in 1908, Dr. J. T. Clegg, the then president of the society, appointed the committee. We went to work and called a meeting and formed the Arkansas Association for the Relief and Control of Tuberculosis. We got a number of gentlemen into that organization; more laymen than medical men. The idea of the lay members of the association was for the establishment of a sanatorium. The idea of the medical members was a campaign of education before the people. But we saw we were not able to swing the association into that line of work. We thought it better to let them work in the line in which they would work, so we all went to work to get the legislature to pass an act for the establishment of a sanatorium, and that act was passed, as you all know, by the last legislature, and the sanatorium is now building, with the prospects that the buildings will be completed and the sanatorium ready for the reception of patients, perhaps as early as the 1st of July. The chairman of your committee was appointed superintendent of the sanatorium, and that has taken all the time he has been able to give to tuberculosis work in the last year, in the interest of sanatorium work. I have traveled pretty extensively, having visited the states of Colorado, New Mexico, Texas, Missouri, New York, Pennsylvania, Louisiana and Tennessee in the interest of the sanatorium. I believe this society ought to continue the committee to perfect the organization of the Association for the Study and Prevention of Tuberculosis. The educational work in tuberculosis is before the people, and that is the most important work we can engage in. This work ought to be in the hands of the State Board of Health, and the board ought to

have funds with which to prosecute the work.

In the State of Pennsylvania the tuberculosis work is in the hands of the health department, not a state board, but a department of the state government, under a commissioner, and the State of Pennsylvania, as you are aware, has very liberally supported that work, the legislature of 1907 appropriating a million dollars and that of 1909 appropriating two million dollars. That is all administered by the Department of Health. Of course, we will have to educate the people of Arkansas up a good deal higher than they are now before we can get such handsome appropriations. But I believe a committee ought to be constituted at this meeting to have charge of this work, and educate public sentiment to that extent that we will get an appropriation from the legislature for our State Board of Health. If we do any good in tuberculosis work we must have a vital statistics law. We cannot know what we are accomplishing in the work against tuberculosis unless we have statistics, a registry of marriages, births and deaths, and the cause of death and prevailing sickness. I believe this society ought to appoint a committee to have charge of this work, and I believe we ought to put some money in the hands of the committee with which to prosecute an educational campaign. For \$500.00 we can get up a very creditable tuberculosis exhibit. I have heard it said, and I believe I saw the statement in print, that the superintendent of public instruction would give room for such an exhibit in his office. It would be a very proper place for an exhibit, and then it could be exhibited, not only in Little Rock, but in the principal cities throughout the state. If we have a little money we could get a competent man to go along and lecture on tuberculosis in connection with the exhibit.

As I said before, my time is entirely taken up; I will not have any time to devote to a campaign of education before the people; but, still, I think that is a more important work than the sanatorium work to which I have been called. I believe that if this society will create a committee, make some one secretary who can give some time to it, and if \$500.00 or \$1,000.00 were put into the work, great good can be accomplished in an educational campaign against tuberculosis. This will get the people educated up so that

when the next legislature meets they will demand an appropriation of \$5,000.00 or \$10,000.00. The State of Iowa, three years ago, appropriated \$10,000.00 for an educational campaign before the state by means of lectures and a tuberculosis exhibit. Arkansas is as good a state as Iowa, to say the least of it. We can do that same work here, and we ought to do it.

Dr. H. Thibault (Scott)—I believe the point that Dr. Shibley brought out, the education of the people, is the keynote in the fight against tuberculosis. Getting people into a sanatorium that are not educated to the necessity of it is like trying to lead a horse to a new barn that has just been painted. He does not know there is any feed in that barn; he never got any out of that barn before. It is a pretty hard matter to get him in sometimes. In view of the fact that you first have to educate the people before you can make them carry out the necessary treatment to cure tuberculosis, and above that the necessary steps to prevent it, I desire to offer the following:

I move that this society appoint a committee for the purpose of educating the people of the State of Arkansas in the method of preventing tuberculosis, and that said committee shall make an estimate of the cost of getting out pamphlets on tuberculosis, or an exhibition of some kind, and that the House of Delegates make an appropriation from the funds of this society to furnish said committee with a fund to carry on its work.

Dr. Anderson Watkins (Little Rock)—I second the motion.

Carried.

President Lenow appointed on this committee F. B. Young, Springdale, chairman; H. Thibault, Scott; A. J. Vance, Harrison.

REPORT OF COMMITTEE ON CONSOLIDATION OF MEDICAL COLLEGES.

Dr. F. B. Young (Springdale)—The report I will make is very short. There has been one thing about this committee, perhaps, that has been very much misunderstood by the members of the society and by the faculties of the two medical colleges of Little Rock. I have here the original draft of the resolution as adopted by the Council and introduced and adopted by the House of Delegates:

"Whereas, The existence of two medical colleges in Arkansas is detrimental to the

influence of medical education and medical organization in this state, therefore be it

"Resolved, That the council of the Arkansas Medical Society request the president to appoint a committee of ten, one from each councilor district, to secure the consolidation of the two schools now existing in Little Rock into one, and the securing of connection in fact with the University of Arkansas."

"Securing the connection in fact" means, as was fully and freely discussed in the Council, the securing of an appropriation for this school which is to be, we hope, in the future from the state funds. We believe now, and this committee has reason to believe since we have met here today, that we will be successful in consummating this idea. In making this report, I wish to say that we have had one meeting of the committee with representatives of the faculties of each school, and since I have been here today I have received assurances from representatives of the faculties that they will be glad to talk to us in a kindlier spirit than when they first met this proposition.

I am free to say that some responses that this committee has received have been anything but pleasant. Some of them have been very pleasant; some of them have been really insulting. Some gentlemen thought we were trying to take some of their private rights away from them, but we overlooked these things. It is going to be mighty hard to insult this committee; it's going to be mighty hard to make us mad, and it's going to be mighty hard to keep from consolidating these two schools and making an attempt to get an appropriation from the state. The time has long since passed in Arkansas—poor old Arkansas!—and every other state in the Union for joint stock company schools. Now, I am walking on somebody's toes, and I know who the "somebodies" are, and I don't care. They are all my friends, and I don't mind walking on their toes. But the time has passed, and has forever passed, for unendowed schools. The report at the last meeting of the Council on Medical Education makes that more apparent than anything that has ever come to the public from an authoritative source, and this committee is not attempting to dictate to either the medical department of the University of Arkansas or the College of Physicians and Surgeons of Little Rock, or to the Board of

Trustees of the University of Arkansas, or to the Arkansas Medical Society, or to anybody else; but we are making an attempt to bring all these different elements together and secure a harmonious working body. All we ask is that these gentlemen come to us in a kindly spirit and good manner and let us all work together and see if we cannot accomplish something.

The committee will meet tonight in this hall at 7:30, and we have invited representatives from each faculty to be with us. These gentlemen have signified their willingness to meet with us, and we will entertain them either separately or together, as they may desire. We beg to make this incomplete report at this time, and ask further time to make a final report on next Friday morning.

On motion, the committee was granted further time.

APPOINTMENT OF FRATERNAL DELEGATE.

The secretary introduced the following:

"In view of the fact that Dr. E. H. Martin, of Hot Springs, will attend the Louisiana State Medical Association, which is now in session, I move that he be appointed a fraternal delegate from this society to that association, and that a letter be directed to the president of that association testifying to our fraternal spirit and kindest feelings towards that society."

Adopted.

DISTRICT BRANCHES OF THE AMERICAN MEDICAL ASSOCIATION.

Dr. L. H. Barry (Hot Springs)—Under the head of unfinished business, I wish to introduce the following resolution:

"Whereas, The Southern Medical Association and the Medical Association of the Southwest were organized a few years ago with the intention of their becoming district branches of the American Medical Association; and

"Whereas, These two bodies were and are refused recognition by the American Medical Association for the reason that they refused to adopt the ready-to-wear constitution and by-laws as provided by the American Medical Association for district associations, certain provisions therein being unwise in the judgment of the two district associations named; and

"Whereas, The two district associations

have grown to be of great importance to the South and Southwest; therefore, be it

“Resolved, That the delegates from this society to the House of Delegates of the American Medical Association be hereby instructed to use every effort possible to secure the recognition of the Southern Medical Association and the Medical Association of the Southwest, as district branches of the American Medical Association, with due representation in the House of Delegates of the American Medical Association, and this without change in the present constitutions and by-laws of said district associations.”

Carried.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

President Lenow—The next order of business is consideration of certain proposed amendments to the constitution and by-laws as presented at the Pine Bluff meeting. For the information of the members, I will first read the amendments before offering them for your adoption or rejection.

Amendment No. 1—Chapter VI, Section 4, to read as follows: “The secretary shall give bond in the sum of \$1,000.00.”

Amendment No. 2—Section 5 added to Chapter VI, to read as follows: “The Council shall have authority to accept or reject all bonds.”

Amendment No. 3—Chapter VII, addition of Section 6, to read as follows: “In case of a vacancy in the office of delegate, the Council shall have authority to seat any member of that county society in attendance at said meeting as delegate, with full right to perform all the duties of that office.”

Amendment No. 4—Chapter IX, Section 5, strike out the words, “who is a graduate of a reputable medical college.”

Dr. L. H. Barry (Hot Springs)—I move that we proceed with the adoption of amendments Nos. 1 and 2, as they both relate to the same thing.

Seconded.

Dr. H. Thibault (Scott)—The amendment says, “Chapter VI, Section 4, to read as follows: ‘The secretary shall give bond in the sum of \$1,000.00.’” If it reads “as follows,” we eliminate everything that it precedes in that section. Therefore, I move as an amendment of this section that this addition be made to Chapter VI, Section 4, because if it is adopted as printed in the pro-

gram we eliminate Section 4 of Chapter VI altogether.

Dr. F. B. Young (Springdale)—Wasn't it Section 3 of Chapter VI that you read?

President Lenow—No; it was Section 4. The motion is to adopt amendment No. 1 and add it to Section 4.

Dr. H. Thibault—Amend this first and then adopt the two together.

Carried.

President Lenow—Now we will vote on the adoption of amendment No. 2.

The motion to adopt was carried.

Dr. L. H. Barry (Hot Springs)—I move that amendments Nos. 3 and 4 be declared lost.

Dr. E. P. Bledsoe (Little Rock)—I second the motion.

Dr. F. B. Young (Springdale)—I call for a division, and ask that they be voted on one at a time.

Dr. C. P. Meriwether (Little Rock)—I move that we take up amendment No. 3.

Seconded.

Dr. H. Thibault (Scott)—Dr. Bledsoe seconded Dr. Barry's motion.

President Lenow—Dr. Barry's motion is that we declare both amendments lost.

Dr. F. B. Young (Springdale)—I rise to a point of order. It is contrary to parliamentary usage to consider two amendments on different lines in the same motion. We can't consider these two amendments together.

President Lenow—Dr. Young's point is well taken. We shall have to consider the two amendments separately. The question resolves itself on amendment No. 3.

Dr. H. Thibault (Scott)—In order to save time, I move the adoption of amendment No. 3.

Seconded.

Dr. F. B. Young (Springdale)—In explanation of these amendments, I wish to call attention to this point, and I am going to act as spokesman for the Council. These amendments were all introduced with the full consent and approval of the Council. Every year when we meet there are members from each county society present when the delegate duly elected is absent. The House of Delegates has been in the habit every year of substituting a member present. We have had no authority for that, and when the question came up in legal form, which of course it will have to do, any action that the

House of Delegates might take is utterly illegal. This amendment simply simplifies the matter and makes the Council authority for the seating of a member present who has not been elected a delegate, but who may be present. It may happen from any county except Pulaski. As a rule, Pulaski and Garland counties will always have delegates present; they have irons in the fire, and have to have their delegates present. My friend Barry has to be present, or his representative. But from Washington County the delegate duly elected may not be here. I might come down here some time, not being elected delegate, and, the delegate not coming, Washington County might not be represented, when I was here on the ground to represent my society in full force. From that standpoint, I want this resolution passed, and I want it simply to legalize what we have been doing. The House of Delegates has been acting out of order in putting in these men who were present, and this simply legalizes what we have been in the habit of doing, and putting it up to the Council to look at their credentials and take that duty off the House of Delegates.

Dr. H. Thibault (Scott)—I will inform Dr. Young that the House of Delegates this morning did seat some member because the delegate was not present. This business of electing a delegate to represent a county constitutes a republican form of government of the Arkansas Medical Society and of the American Medical Association. It is analagous with the form of government of the states of the Union. There is just as much sense in the Congress at Washington seating some visitor from Arkansas in the place of a congressman because that congressman was absent as there is for this House of Delegates seating some member of Lonoke County, or Prairie County, or any other county medical society because the duly elected delegate or his alternate was absent. A case is very apt to arise where a delegate is instructed to carry out the policy of the majority of the members of the society, that there may be one man not a delegate present at a meeting here who is opposed to every policy of that society as a whole, and if he is seated the society will not be represented, but misrepresented. Now, most constitutions provide for an alternate; he is elected, and he is here for the purpose of filling the place of the delegate. We ought to have some re-

straint on a man coming in and representing his society when probably every policy of the society is opposed to that man's private opinion. I don't mean to say, as one of the physicians intimated this morning, that a man is a rascal because he does not agree with the society. He may be the best man in it, as far as I know; but his personal ideas may be entirely opposed to the ideas of his society as a whole. He may be right and the society wrong, as the case may be, but he won't represent the society if he does not agree with the majority of the society when he comes here and acts as their delegate.

The amendment was adopted.

Dr. L. H. Barry (Hot Springs)—I move that amendment No. 4 be declared lost. This amendment means to admit the undergraduate and take him in as our equal. I don't think that is right. My father was one of the organizers of the Arkansas Medical Society, forty years ago. The Arkansas Medical Society has upheld the ethics of the medical profession, has stood firm, has stood steadfast against everything that tended to lower the profession, and they have had to fight for thirty-five years, and now it is proposed to lay down the bars and take in the undergraduate. I don't think it is right. I don't think it is a credit to us. I don't think it is a credit to this society to take in the undergraduate. I, for one, seriously oppose it. I can't see where the undergraduate can do us any especial good. I can't see where he will be any credit to us in any way, shape, form or fashion. I would like to see the amendment defeated.

Dr. F. B. Young (Springdale)—If I am not mistaken, the doctor has no second to his motion. Therefore, I move that this amendment be adopted.

Dr. E. C. Hay (Hot Springs)—I second the motion.

President Lenow—To enlighten you on the subject, I will read the section:

"Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this society and to the American Medical Association, every reputable and legally registered physician who is a graduate of a reputable medical college, who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be entitled to membership."

This amendment means to strike out "who

is a graduate of a reputable medical college" in this section.

Dr. F. B. Young (Springdale)—It wasn't seconded until I made my motion.

Dr. E. C. Hay (Hot Springs)—I was waiting until I could hear it read. The reason I hesitated is because I was willing to hear that part read. I am bitterly opposed to having anyone recognized or being accepted in this society not a graduate of a reputable medical college. In our town of Hot Springs we have twenty or thirty undergraduates, and if you take them into our county and State Medical Society they are placed on the same footing, absolutely, as we are. The American Medical Association at large I don't think would endorse such a proposition. There are some states that do it. But I think we ought to keep the standard up. If a man has the ambition to graduate and get his diploma from a medical college he will be recognized in any State Medical Society.

Dr. F. B. Young (Springdale)—I rise again to a point of order. It is customary, and I think it is proper parliamentary usage, to vote on the affirmative. That no confusion may arise, I insist that the motion should read "that the amendment be adopted." I insist that, according to parliamentary usage, it is improper to offer a motion that a certain thing be lost. I call for a ruling from the president.

Dr. H. Thibault (Scott)—The point of order of Dr. Young is well taken. While I am opposed to the adoption of the amendment, it is according to parliamentary usage to put the motion to adopt, because the other way it requires two motions. If Dr. Barry's motion is lost, we are in the same position that we were before any motion was made.

Dr. E. C. Hay (Hot Springs)—I withdraw my second.

Dr. F. B. Young (Springdale)—With that motion withdrawn, I again move that the amendment be adopted.

The motion was seconded.

Dr. John Hawkins (Mount Holly)—I would like to ask a question for information. With the words, "who is a graduate of a reputable medical college" stricken out, do I understand that any man of any faith, or order, or persuasion, can enter? We may have eclectics, homeopaths, osteopaths, applying for membership. Before I am called on to vote on this question, I would like infor-

mation as to what extent the amendment applies.

Dr. E. C. Hay (Hot Springs)—A license from the State of Arkansas; whether the applicant has ever been in a medical college or not, he is eligible to membership in this society.

Dr. L. H. Barry (Hot Springs)—Dr. Hay is exactly right. That amendment means that any man practicing medicine in the State of Arkansas can be admitted to this society. The legislature of our state has decided that the undergraduate shall not exist in Arkansas, and they have passed a law that no man can appear before our state board without a diploma, and here we are going to work and say that it does not make any difference what they have done, we will take them into our society, take them to our bosoms and make them our equals. Many of them have never been to a medical college in their lives, yet we propose to admit them to our State Society, and from this society to the American Medical Association, and that is where it puts them. I say it will be a damnable disgrace to the State of Arkansas to be one of the first states to do such a thing. I hope you won't do it. I have served my time in a medical college, and my father served before me, and he has fought for medical organization and medical ethics in the State since 1859. I would be ashamed to go home if I voted for the adoption of this amendment, and I hope the gentlemen will vote against it.

Dr. H. Thibault (Scott)—The Medical Society has the right to do anything it pleases, but I don't think Dr. Young has the right to be inconsistent, as being on the committee that represents an admission from this society than the man that graduates from either one of the schools in the State of Arkansas is not up to the standard of medical education, and in making an endeavor to raise the standard of medical education; in other words, say that the graduates are not up to the standard of medical education, and then that same man make this endeavor to raise the standard of education of the graduates in medicine, and who wants to bring the undergraduate into the society on an equal basis with these poor fellows that graduate from a reputable school. Before the present law was passed, members that wanted the undergraduate in the society came to me and said, "Take him in. He is on an equal legal basis with you. He can go before the State Board of Medical Examiners and get his license,

when he can go out and practice among the best people in the country. One of them some day will come and sit down beside you and take all your practice away from you. So you had just as well be on good terms with him. It may be he will call you in consultation once in a while." After the present law was passed, these same men that wanted to bring him into the society come and say, "Well, now look at the law. The law has eliminated him to a certain extent. We might as well take him in." Now, the law is the last thing in the world that admits that there is any such thing as a "quack" doctor. They are the hardest men in the world to convict. The law is the slowest thing in the world to put any obstruction in the way of a man practicing medicine, if he will pretend to be a doctor. But the law of Arkansas has put an obstruction in the way of an undergraduate entering the practice of medicine. Why should the Arkansas Medical Society, that is supposed to represent the highest ideals in the practice of medicine, that is supposed to move towards a still higher ideal than any we have yet anticipated, let the undergraduate in? The better class of medical men in the world today are advocating a five- and six-year course instead of a four-year course. Yet we have an amendment under consideration to admit men to this society that did not complete a two-year course.

Dr. L. H. Barry (Hot Springs)—Nor a one-year course.

Dr. Thibault (continuing)—A lot of them did not attend college probably more than two weeks in their lives; the majority of them went back at the end of a year and got their right to practice medicine because they had an uncle on the county board.

Dr. C. P. Meriwether (Little Rock)—Two years ago, when this subject came up, and again a year ago, I was opposed to it. As councilor of this district last year I got out among the county societies. Some of the most competent workers in these county societies are the undergraduates. I have opposed the attempt at allowing undergraduates to come into our state and practice medicine. But we have got a number of them here, and the best way to help an evil is to get close to it; get up where you can control it and look at it. After getting around my different county societies, a good many of them are in favor of it. As far as saying that we take in everything, we take in

the homeopath, we take in the eclectic, or what not, provided he throws away his "path." These men have got just as much opportunity, as much right, as they would have otherwise, provided they have got a diploma. I believe that it is for the best interests of the State Medical Society and for the medical profession of the State of Arkansas to take in the undergraduates. It is going to help them. As you all know, there has never been a question come up in the State of Arkansas wherein organized medicine has tried to get any desired legislation that every undergraduate has not been up in arms voting against it, because he does not know what it means; he thinks it is a blow at him. Whereas, if you get him into the society and make him one of you, he is with you, and he is helping you. I am sure you will make better doctors out of every one of them, and it is not going to harm any of us in the least.

Dr. C. M. Hathcock (Harrison)—What is the object of organized medicine? What do we mean, and what do we want to accomplish? It is true you might say we want to get every man to graduate so that he will be a man that is useful to the country. If we are going to take in every man that wants to come into the society, how will we stand before the American Medical Association? Would we be entitled to recognition in the American Medical Association if we recognized men that are undergraduates?

Dr. Meriwether—The American Medical Association recommends to the state society to take in undergraduates.

Dr. Hathcock—I didn't know that the A. M. A. made such recommendation. If that is so, that might be some excuse for it. But, even then, there are a very few states that do take them in. I want to say for myself that I am opposed to taking them in, because I don't think they are equal to the graduate. I don't think they ought to have the same privileges in the medical society, because then they are recognized by the world as equal to you and me. While they may be all right (don't understand me to say that none of them are well qualified to practice medicine), I do feel that if I have graduated I ought to have a little more privilege in this society than a man who has not. Not because I am a better man, or probably a better practitioner, but I believe in trying to elevate instead of trying to pull down, and I regard it as an effort, instead of try-

ing to elevate the profession of Arkansas, to pull it down. I would take it as rather a disgrace to the society to adopt the amendment—to pull down instead of raising up.

Dr. C. C. Rice (Rogers)—It seems to me that there are thirty undergraduates in Hot Springs. Who will have to pass on the question whether they shall become members or not? In taking in a member, it does not matter how many diplomas he has. He must be recommended by the Board of Censors. After he has been recommended to the medical society, if the society sees fit to vote for him, he becomes a member. If they vote against him, it does not matter about his many diplomas; he is not a member. If these undergraduates put in their applications for membership in the society, then, Mr. President, it seems to me it is the duty of the Board of Censors to say whether they are reputable, worthy, and qualified to become members of our society. Right there they can be shut out if they are not in every respect worthy. It is true that we here hold diplomas and are members of this society, but it is equally true that there are men in this state who are practicing medicine without diplomas who are equal to some who have diplomas. We ought to recognize merit. In my county there are undergraduates who are equal to some who are graduates—men who would take an active part and a great interest in the building up of the State Society and the profession at large, provided our society will open the doors and say, "Gentlemen, if you come in we will make you equal to us and allow you the same privileges in our State Society as the man who holds a diploma." Now, there is a gentleman here who says that the American Medical Association has recommended that we take them in. Why should it be, as one gentleman said, a damnable curse for us to take in a man who holds no diploma? As to the man who is an ethical practitioner, though he does not hold a diploma, our Board of Censors will say to him, just as we have heretofore, "You can't enter." It does not seem to me he can be voted in here if our Board of Censors says "No." For that reason, Mr. President, I would be in favor of the motion.

Dr. F. B. Young (Springdale)—I want to read the section as it will read if it is amended.

"Each county society shall judge of the qualification of its own members, but, as such

societies are the only portals to this society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be entitled to membership."

That's the way the first part will read. The rest refers to the charter:

"Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member."

Garland County today has 106 graduate physicians in it, and it has twenty-five undergraduates. In its county society it has fifty-six members. It is fifty members short—nineteen members over half your regular reputable graduate physicians in Hot Springs today.

Dr. L. H. Barry (Hot Springs)—I take issue with you. Fifty-six reputable physicians and fifty who are not reputable, or they would be in the society.

Dr. Young—If I understand you properly, you say you have fifty-six reputable physicians in your county society, and fifty disreputable.

Dr. Barry—As far as we are concerned, yes.

A Delegate—What do you do with the undergraduate?

Dr. Barry—Put them where they will stay until they get diplomas.

Dr. Young—They are in Hot Springs.

Dr. Barry—But if they were not doing right we would put them out of the city.

Dr. Young—In keeping out these fifty-six graduates who are disreputable, and the twenty-five who are not graduates and reputable, these gentlemen have cut themselves down to fifty-six members. Now, they have complied with the first sentence of Section 5 of Chapter IX, which we wish to amend. That is that "each county society shall judge of the qualification of its own members." They don't have to take in these undergraduates unless they want to, any more than they should take in the fifty men that they have not taken in, yet who are graduates. They can keep them out if they wish. They can keep out the fifty graduates, and they can continue to keep out these twenty-five undergraduates if they so desire; so can any other county society in the state, if it so desires. But, as Dr. Rice says, in the town of Rogers there is one man, at least,

who is a reputable, straightforward, honorable, upright, honest practitioner of medicine. You can go into his office today and you will find it well equipped. You can meet him in consultation and you would not know he is an undergraduate. He is a man that goes off and does postgraduate work; he studies medicine every day and night. He comes to the Benton County Medical Society, yet cannot be a member. He cannot come up there except by courtesy and take part in the work. He subscribes for the Journal, and still, after we have all met him in consultation, after we have taken all we can get from him, we won't offer him the boon of coming in and being an active member with us.

Now, there are many graduates of reputable schools all over the State of Arkansas that are poor practitioners, yet they are entitled to membership. They may never have done anything disreputable, yet they are entitled to membership, and still not as good practitioners as these men. We ought to line up these men in the cause of organized medicine. They are men that carry influence and do good work; men we want to line up with us and have here at these meetings. We don't have to take in disreputable men. This section says, "Each county shall judge of the qualification of its own members." A great cry has been made here this afternoon on account of the result with the American Medical Association. The American Medical Association recommends that we take in undergraduates. There are only about four or five states in the Union today that don't take in undergraduates to full membership in county and state organizations. There is only one county society in Texas today but what takes in undergraduates, and that is the Dallas County Medical Society, and it is dead. All over the Union today they are taking them in.

A great cry is made that it is a disgrace to the profession to take them in. Now, the fact of the business is, it is an honor to the profession when we can go up and help these fellows to do better for their own community and for the people they work among. We believe there is good in organized medicine. We believe we are benefiting ourselves and benefiting our patrons, or we would not be here. We believe it is a good thing for us and a good thing for those who are dependent upon us. If that is so, why don't we pass the good things around and let the fel-

lows that have to do this work (and lots of them there are in this poor old state that can't graduate) give them the good things that come our way? The idea of undergraduates dominating a medical organization is absolutely preposterous. They can't do it. There are twenty-five of them in Hot Springs, but the Garland County Medical Society, Barry and the other fifty-five of them, would hold them down. They hold them down now, good and strong. It will be that way in every county society in the state.

We realize that we, who have gone two, three and four years to a medical school and have got our diplomas and been dubbed "M. D.'s" are vastly superior to these fellows. We recognize our superiority. We are sorry for them, Barry; we are sorry for them because they are not as good as we are. But we want to help them. We want them to come in so that they can get the benefit of our good work. We think it is absolute selfishness in you to sit over there and say, "Don't take them in. Kick them down the stairs." We know we are better; we know you are better; we know Dr. Hay is better, but we want them to come in and be benefited by our society.

A Delegate—I understood the doctor to say that the Dallas County Medical Society was dead. I would like to ask if the doctor means to say that it is due to the fact that they do not take in undergraduates.

Dr. Young—I did not say that upon my own responsibility, but on the responsibility of a member of the American Medical Association.

A Delegate—I want to ask if this section, as amended, will not be, word for word and letter for letter, the section as proposed by the American Medical Association for adoption by county societies.

Dr. Young—Yes; the very section as proposed by the American Medical Association.

Dr. H. Thibault (Scott)—I want to offer an amendment to the amendment that is to be adopted.

Dr. C. P. Meriwether (Little Rock)—I rise to a point of order. Dr. Thibault has spoken on the question.

Dr. Thibault—I am not speaking upon it, but desire to offer an amendment. Dr. Young's fluent remarks on the subject of helping the undergraduate has led me to introduce these words after the word "physician" in the section—

President Lenow—You are out of order. You cannot amend this amendment.

Dr. Thibault—You can amend an amendment, but not an amendment to an amendment. I appeal from the decision of the chair. I have a right to offer an amendment to the amendment. I can't amend with two amendments, but I can amend an amendment. I stand upon my constitutional grounds, and appeal from the decision of the chair, if that is the decision. I know that I am right.

President Lenow—To amend this motion takes precedence of nothing but the question which it is proposed to amend, and yields to any privilege.

Dr. Thibault—It has taken precedence of the original question before the house. That is the question which it is proposed to amend. My motion is this: I move that it be amended so as to read, "registered physician, regardless of color, race or previous condition of servitude, be accepted in the county society." Dr. Young's attitude towards the undergraduate impressed me. He preached a good sermon, and I want to extend the charity to everybody.

Dr. L. H. Barry (Hot Springs)—I second Dr. Thibault's motion.

President Lenow—The question before the house is the adoption of amendment No. 4, as amended by Dr. Thibault.

The amendment to the amendment was lost.

Dr. H. Thibault (Scott)—I move that the motion to adopt the original amendment be laid on the table.

Seconded.

Dr. Thibault—In order to save time, I will withdraw the motion to table and let the vote be taken on the original motion to adopt.

The roll was called and the motion to adopt was lost, fifteen voting in the affirmative and twenty-four in the negative.

SELECTION OF NOMINATING COMMITTEE.

The delegates from each Councilor District met and selected the following as members of the Nominating Committee:

First District—T. G. Brewer, Osceola.

Second District—T. N. Rodman, Cushman.

Third District—S. A. Southall, Lonoke.

Fourth District—C. N. Martin, Warren.

Fifth District—F. L. Magee, Frostville.

Sixth District—A. S. Buchanan, Prescott.

Seventh District—L. H. Barry, Hot Springs.

Eighth District—A. Watkins, Little Rock.

Ninth District—J. J. Morrow, Cotter.

Tenth District—J. G. Eberle, Fort Smith.

Dr. J. G. Eberle, of Fort Smith, was elected chairman, and Dr. Anderson Watkins, of Little Rock, secretary.

On motion, the House of Delegates adjourned until 9:00 a. m. Friday.

THIRD MEETING—FRIDAY, MAY 6, 1910.

The House of Delegates met at 12:00 o'clock, m., and was called to order by the president, Dr. James H. Lenow, a quorum being present on roll call.

REPORT OF NOMINATING COMMITTEE.

Dr. J. G. Eberle, of Fort Smith, chairman of the Nominating Committee, presented the following report:

"To the Members of the House of Delegates of the Arkansas Medical Society:

The Nominating Committee selected by the delegates of the several councilor districts respectfully submit the following names for election for the specified offices of this society:

"President—R. C. Dorr, Batesville; Geo. S. Brown, Conway; G. A. Hebert, Hot Springs.

"First Vice President—L. F. Magee, Frostville.

"Second Vice President—J. B. Grammar, Searcy.

"Third Vice President—Thad Cothren, Walcott.

"Treasurer—J. S. Wood, Hot Springs.

"Secretary—Morgan Smith, Little Rock.

"Delegate to American Medical Association—J. T. Clegg, Siloam Springs; alternate, L. H. Barry, Hot Springs.

"Councilors—Second district, J. H. Kennerly, Batesville; Fourth district, A. D. Knott, Wilmot; Sixth district, L. J. Kosminsky, Texarkana; Eighth district, A. H. McKenzie, Dardanelle; Tenth district, M. S. Dibrrell, Van Buren.

"Section Officers:

"Medicine—Chairman, T. F. Kitrell, Texarkana; secretary, A. S. Buchanan, Prescott.

"Surgery—Chairman, Henry Dickson, Paragould; secretary, Will Owen, Paragould.

"Obstetrics and Gynecology—Chairman, S. J. Hesterly, Prescott; secretary, W. C. Dunaway, Little Rock.

"Pathology—Chairman, M. D. Ogden, Little Rock; secretary, William H. Deaderick, Helena.

"State Medicine and Public Hygiene—Chairman, St. Cloud Cooper, Fort Smith; secretary, Anderson Watkins, Little Rock.

"Dermatology and Syphilology—Chairman, Samuel Steer, Hot Springs; secretary, M. F. Mount, Hot Springs.

"We recommend that the next meeting be held at Fort Smith."

Dr. L. H. Barry (Hot Springs)—I move the report be accepted and the committee discharged.

Seconded and carried.

The election of officers being the next order of business, President Lenow appointed Dr. Leonidas Kirby, of Harrison, and Dr. L. H. Barry, of Hot Springs, tellers, and the house proceeded to ballot for president.

On the first ballot Dr. R. C. Dorr, of Batesville, received twenty-five votes, Dr. George S. Brown, of Conway, twenty-two, and Dr. G. A. Hebert, of Hot Springs, nine, the total number of votes cast being fifty-six and the number necessary to a choice twenty-nine. President Lenow ordered another ballot. On motion, Dr. Hebert's name was dropped.

On the second ballot Dr. Dorr received thirty-two votes and Dr. Brown twenty-three votes. Total number of votes cast, fifty-five; necessary to a choice, twenty-eight. Dr. Dorr having received a majority of the votes cast, was declared to be the duly elected president for the ensuing year.

On motion, the election of Dr. Dorr was made unanimous.

Dr. L. H. Barry (Hot Springs)—As the Nominating Committee has only submitted one name for each of the other officers, I move that the list as submitted be declared the unanimous choice of this meeting for the offices as named.

Dr. H. Thibault (Scott)—I second the motion, with the exception that the place of meeting be left open.

The motion was carried.

President Lenow—The next order of business is the selection of the next place of meeting.

FORT SMITH SELECTED AS THE PLACE OF MEETING.

Dr. L. J. Kosminsky (Texarkana)—I wish to invite the society once more, in behalf of the city of Texarkana. We are better prepared for entertainment now than we were

last year; we have another new hotel, and we would be glad to welcome you on behalf of the Twin City and the Miller County Medical Society.

Dr. J. G. Eberle (Fort Smith)—I come instructed by the Sebastian County Medical Society, the second largest medical society in the state, to invite you to meet at Fort Smith. We also come instructed by the Board of Trade of the city of Fort Smith, the second largest city in the state, to invite you to meet there. I say the "second largest city," notwithstanding the remarks my friend Dr. Scales made in his response to the address of welcome Wednesday morning. Dr. Scales, being flattered by the welcome here, and being told that Pine Bluff was the second city in size in the state, had his head turned, his brain became slightly affected, and he saw double—two capitols, two Little Rocks, and two medical colleges. I don't like to talk about my friend in his absence, but we want you to come to Fort Smith and see what we are. We promise you we will make the meeting interesting and that we will make your welcome warm and hearty, and we trust that you will honor us with the meeting next year.

Mr. George R. Brown (Little Rock, secretary of the Board of Trade)—Mr. Chairman and Gentlemen: In the absence of Mr. H. L. Rummel, the president of the Board of Trade, I appear here before you as the official representative of that organization to thank you for the honor you have conferred upon our city by being with us at this convention. We extend to you most cordially and sincerely an invitation for next year, and for every year. We are glad to have you. We feel that your presence with us is elevating in every particular. In whatever city you may hold your convention, however, we feel that Little Rock will be benefited. The slogan of the Board of Trade is, "What helps Arkansas helps Little Rock." Speaking for the Board of Trade, and also, I believe, representing the other commercial organizations of the city, I extend to you an invitation for next year, and I thank you again for the honor you have conferred upon us.

Mr. C. Ed Taylor (Little Rock)—I did not know Mr. Brown was going to extend an invitation to you to meet here next year. I had the honor and pleasure to extend to you an invitation at Pine Bluff last year to hold your thirty-fourth annual session with us. I want to express my appreciation of

your presence with us at this meeting. While I do not want to monopolize you or try to get you to hold every meeting with us, I want to invite you again to hold your next meeting here, unless you see that it is to your interest to take it to some other place. Little Rock is centrally located, and geographically favorably located for any convention; easy to get to, and the railroad and hotel accommodations are equal to the best.

I had the pleasure of being one of the delegates, or rather one of the "boosters," whichever it may be termed, to accompany the little squad that won the victory in extending an invitation to the Confederate veterans in 1911, in Mobile last week. We had a hard fight. Chattanooga came out on the second day with a page advertisement, stating what they would do—\$25,000.00 voted by the commercial organizations. Congressman Joe T. Robinson, our spokesman, stated if we could not raise \$25,000.00, or even more, in the borders of the city limits of the "City of Roses," that we could call on the different towns in the state for assistance. We will not have to do that. It will afford me great pleasure to have compliments and bouquets thrown at Little Rock for taking care of those veterans as well as they were taken care of at Mobile.

Gentlemen, the time has come when Arkansas has been recognized on the map. I could say a great deal more, but I don't want to take up any more of your time, and I thank you very much, and trust you will accept the invitation to meet here next May.

Dr. H. Thibault (Scott)—In view of the fact that we have a great deal of business to transact, I move that nominations be closed and a vote be taken on the three cities named, with the understanding that the lowest be dropped out on the second ballot.

The motion was adopted.

A ballot being taken, Fort Smith received thirty-two votes, Little Rock ten, and Texarkana eight. Total number of votes cast, fifty; necessary to a choice, twenty-six. Fort Smith was declared to be the choice as the next place of meeting.

REPORT OF COMMITTEE ON RESOLUTIONS.

Dr. L. Kirby (Harrison)—I want to say that we feel that this report, which is made unanimously, probably does not cover all the ground that might be covered, but it covers the principle probably involved. Before starting out, we want to say that we recognize one fact. I think I correctly quote Dr.

Jackson, who is here as a guest of this society, when he says that the time for unendowed schools, or those not having state support, is nearly passed. We recognize the fact that we must, if we have any state pride, if we have any interest in Arkansas, if we have any home pride, try to do something to obtain a school in this state that shall have sufficient state aid by which it may be run, as we will indicate in our report. That will be done by rich men furnishing endowment. We have no hopes for such a thing, and the only chance to secure such a school will be through state aid. I will read the resolution as introduced by Dr. Watkins:

"Whereas, The standard of medical education is advancing so rapidly that the unendowed schools are at a disadvantage in the teaching of medicine; and

"Whereas, There is room in the State of Arkansas for only one medical school of good standing and equipment; and

"Whereas, The medical department of the University of Arkansas has labored faithfully for twenty-one years to advance the cause of medicine and attain a proper standard, without any financial assistance from the state; therefore, be it

"Resolved, That the medical department should be taken under the wing of the University of Arkansas by the following plan: The medical school should turn over to a properly appointed board of trustees of the university all its money, property and equipment. The Board of Trustees should govern the school as other departments of the university, including the appointment of the faculty. The legislature of Arkansas should maintain the school by annual or biennial appropriations; and be it further

"Resolved, That the Committee on Public Policy and Medical Legislation is instructed by this House of Delegates to draft and advocate a suitable bill to the effect of the above in the next session of the Arkansas legislature."

Upon this resolution, as referred to your committee, we beg to report:

"We, your Committee on Resolutions, beg leave to submit the following upon the resolution of Dr. A. Watkins:

"We recommend the adoption of said resolution, with the following conditions:

"First. The medical department of the University of Arkansas turn over all its property to the state.

"Second. The state shall control all of said property by a properly appointed board

of trustees, which board of trustees shall conduct a medical school in which the entire course of instruction necessary to the obtaining the degree of doctor of medicine shall be taught.

"Third. At the time the transfer of said property is made, the present faculty shall be considered as having resigned.

"Fourth. That a new faculty shall be appointed by the board of trustees, and an advisory committee appointed by the Arkansas Medical Society. This advisory committee, appointed by the Arkansas Medical Society, shall have the right and power to select a list of names from which the board of trustees may appoint the new faculty.

"Respectfully submitted,

"LEONIDAS KIRBY, *Chairman*;

"J. G. EBERLE,

"HENRY THIBAUT."

I want to say that we certainly feel that the legislature will take such action as it sees fit. As to the University of Arkansas, medical department, it is one in name only, and the faculty wants to make it one in fact. The legislature will have the controlling voice in the matter in the end, and it does not make any difference what we may urge in this respect. The resolution of Dr. Watkins simply proposes to turn the school over to the state, provided the state will take it in charge and conduct a proper medical school; but we make certain recommendations, and I believe our legislature, if properly memorialized by this body, will at least in a measure follow what we suggest.

Dr. C. C. Rice (Bentonville)—I move the adoption of the report.

The motion was seconded and carried.

REPORT OF THE SECRETARY OF THE STATE MEDICAL BOARD OF THE ARKANSAS MEDICAL SOCIETY.

Dr. F. T. Murphy (Brinkley), Secretary of the board, submitted the following report:

In view of the fact that it will take twenty or twenty-five minutes to read this report, I will just submit it. Of course, it will be published in the Journal.

Dr. H. Thibault (Scott)—I move that the report be read by title and printed in the Journal.

Carried.

"To the Officers and Members of the Arkansas Medical Society:

"At the request of your secretary, it gives us pleasure to make to you a report of the

transactions of the State Medical Board of the Arkansas Medical Society for the year 1909.

"During this period, as you are aware, we operated under two different laws. The examinations of January, April and July were conducted under the act of 1903, while our November examination was conducted in accordance with the amendment of said act which became effective on August 6, 1909.

"This amendment, with which you are all no doubt perfectly familiar, provides for only two meetings of this board per year, instead of four, as under the act of 1903. It also provides that an applicant shall present to the board satisfactory evidence of graduation from a reputable medical school, and that a school shall be considered reputable within the meaning of this act whose entrance requirements and course of instruction are as high as those adopted by the better class of medical schools of the United States. It also provides that the Homeopathic State Medical Board shall examine all applicants who have graduated from a homeopathic school of medicine; the Eclectic State Medical Board shall examine all applicants who have graduated from an Eclectic school of medicine, and this board shall examine all other applicants.

"There have been added five new branches, namely, Therapeutics, Pathology, Bacteriology, Gynecology, and Hygiene.

"This amendment also admits of reciprocity, a privilege which was not within the power of this board under the act of 1903. There is also a provision for revocation of licenses for the following causes, to-wit:

"(a) Chronic and persistent inebriety.

"(b) The practice of criminal abortion, either as principal or abettor.

"(c) Conviction of the crime involving moral turpitude.

"(d) Publicly advertising special ability to treat or cure chronic and incurable diseases.

"(e) The representation to the board of any license, certificate or diploma which was illegally or fraudulently obtained, or the practice of fraud or deception in passing the examination.

"During the year 1909 there were examined by this board 238 applicants, of whom 211 were white males, the remaining twenty-seven being colored, twenty-six of whom were males, with one female.

"Of the total number of applicants ex-

amined there were 107 licensed and 131 rejected. Of those licensed ninety-nine were white, while eight were colored.

"The total number of graduates examined during 1909 was eighty-five, fifty-five of whom were successful, and were granted a certificate, while thirty failed to make the required general average of 75 per cent and were rejected.

"Among the list of graduates examined during the year 1909 the following schools were represented:

	Applicants.	Pass.	Fail
University of Georgia.....	1	0	1
Meharry Medical College.....	15	5	10
University of Louisville.....	6	5	1
Leland Stanford University.....	1	1	0
Illinois Medical College.....	1	1	0
Tulane University.....	4	4	0
Univ. Med. College, Kansas City..	1	1	0
University of Nashville.....	4	4	0
Vanderbilt University.....	2	2	0
University of West Tennessee.....	2	0	2
Missouri Medical College.....	1	1	0
University of Arkansas.....	8	4	4
Howard University.....	1	1	0
Memphis Hospital Medical College	7	5	2
University of the South.....	1	1	0
Epworth University.....	1	1	0
P. and S. College, Keokuk.....	1	1	0
University of Alabama.....	1	1	0
College of P. and S., St. Louis.....	1	0	1
College of P. and S., Little Rock...	3	1	2
Ensforth Medical College, Kansas	1	1	0
Toronto University.....	1	1	0
Rush Medical College.....	1	1	0
University of Iowa.....	1	1	0
Barnes University.....	3	2	1
St. Louis University.....	1	1	0
Maryland Medical College.....	1	1	0
University of Virginia.....	1	1	0
College of P. and S., Memphis.....	1	0	1
New Orleans Med. Col. or Flint....	3	2	1
University of Tennessee.....	4	4	0

"The percentage of failures among graduates was 35⁵₁₇ per cent. The board also examined during this period 153 non-graduates, of whom fifty-two passed and were granted a certificate, while 101 were rejected, making the percentage of failures among the non-graduates 66²₁₅₃ per cent.

"There is no note made of non-graduates in this tabulated list of schools, for the reason that it would be an injustice to any school to charge them with a failure on the part of one of their non-graduates.

"You will also note that the total number of applicants in this tabulated list of schools does not tally with the total number of graduates examined during the year, the tabulated list of schools showing only eighty, while the general report shows a total of eighty-five graduates examined. This difference is due to the fact that some applicants who were graduates failed the board more

than one time during this period, and it would not be right to charge a school with more than one failure where two or more reported failures had been made by the same applicant.

"The report of each examination conducted during the year 1909 is as follows:

"At the time of our January examination there were examined sixty-nine applicants, fourteen of whom were graduates, while the remaining fifty-five were non-graduates. There were sixty-eight white applicants and one colored.

"The number of graduates who passed a satisfactory examination was eleven, with three failures.

"Number of non-graduates who passed a satisfactory examination, eighteen, with thirty-seven failures.

"Total number who passed a satisfactory examination at this time and were granted a certificate, twenty-nine, all of whom were white.

At the time of our April examination there were examined sixty-four applicants, twenty of whom were graduates, while the remaining forty-four were non-graduates. White applicants numbered fifty-four, while ten were colored.

"Number of graduates who passed a satisfactory examination, twelve, with eight failures.

"Number of non-graduates who passed a satisfactory examination, sixteen, with twenty-eight failures.

"Total number who passed a satisfactory examination at this time and were granted certificates, twenty-eight, of whom twenty-five were white and three colored.

"At the time of our July examination eighty-five applicants were examined, thirty-one of whom were graduates, while the remaining fifty-four were non-graduates. The white applicants numbered seventy-two, while twelve were colored, and the remaining one a Jap.

"Number of graduates who passed a satisfactory examination, twenty-one, with ten failures.

"Number of non-graduates who passed a satisfactory examination, eighteen, with thirty-six failures.

"Total number who passed a satisfactory examination at this time and were granted certificates, thirty-nine, of whom thirty-five were white and four colored.

"At the time of our November examination, this being the first regular examination under our new law, there were admitted to examination twenty-one applicants, all of whom were graduates from a reputable school of medicine. Total number examined, twenty-one, four of whom were colored. Total number of successful applicants at this time, eleven, with nine failures.

"One applicant was admitted through reciprocal agreement with Missouri and one through reciprocal agreement with Illinois.

"It has been the aim of the board to make the examinations, in so far as possible, practical and of a character that would determine the applicant's ability to practice his chosen profession. The percentage of failures, especially since our new law went into effect, has been a source of surprise to every member of the board. In casting about for a cause, we are forced to the conclusion that the medical colleges of our country are largely to blame. The papers in a vast majority of the failures are *prima facie* evidence that many of the colleges are now enforcing their entrance requirements. We are optimistic enough to hope that this condition will not obtain in the near future, and that no one will be permitted to matriculate who does not give evidence of natural ability and educational qualifications sufficient to grasp the scientific teachings of medicine.

"The term of office of President Norwood, Secretary Murphy and Treasurer Fink having expired in July, the board elected the following officers for the next term: Dr. George S. Brown, president; Dr. F. T. Murphy, secretary; Dr. M. Fink, treasurer.

"As our next examination was to be conducted under the new law, which provides for reciprocity, as well as requires all applicants to be graduates of some reputable school of medicine, our president appointed a committee composed of Drs. W. S. Stewart, M. Fink and F. T. Murphy, whose duty it should be to determine what colleges this board should consider reputable, as well as to take some action relative to reciprocity.

"Dr. W. S. Stewart, who was elected chairman of this committee, called a meeting of the committee for July 25, at which time the committee met, but arrived at no definite conclusion. The committee again met on August 8 and prepared a report, which was submitted and adopted by the board on November 9, just prior to opening the examination.

"The committee reported that we would accept as the basis of recognition of colleges the report of the Council on Medical Legislation of the American Medical Association, and that we would recognize no college as reputable which had received a grading of 50 per cent or below by said council. First inspection of said council to apply in all cases where diploma had been issued prior to August 6, 1909; second inspection to apply in all cases where diploma was issued subsequent to said date.

"The committee reported that we would accept as the basis for reciprocity qualifications Nos. 1 and 2, as suggested by the American Confederation of Reciprocating, Examining and Licensing Medical Boards, and instructed the secretary to take up the matter of reciprocity on this basis with such states as he deemed best.

"The provision of these qualifications is as follows:

"Qualification No. 1—A certificate of registration showing that an examination had been made by the proper board of any state, on which an average grade of not less than 75 per cent was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

"Qualification No. 2—A certificate of registration, or license, issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state. Provided, the holder of such certificate had been engaged in the reputable practice of medicine in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirements of the examination test in such state.

"It was further agreed that this board would accept no applicant under reciprocity

nor endorse an applicant for reciprocity who was not a member in good standing of either his county, district or state society. While on this point we would like to state that the matter of reciprocity is quite a problem, and one that must be handled with much care. The two main points to consider are to obtain as much for your own licentiates as possible, yet not be so liberal in your agreement as to admit applicants who might not possess the necessary qualification.

"We will report that up to this time we have entered into an agreement with the following states: Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, North Dakota, Oklahoma, Texas, Vermont and Virginia.

"We would also like to state that by reason of statutory limitations, as well as board rulings in the various states, there is a slight variation in all reciprocal contracts. Even under qualification No. 1 some states provide that an applicant must have passed a satisfactory examination before this board since our new law became effective, while one or two states will admit those who passed prior to that date, provided he held a diploma from a reputable school of medicine at the time of taking examination. Applicant also to comply with all other rules and regulations governing reciprocity in the state in which reciprocal endorsement is sought.

"One of our agreements provides that no applicant will be admitted under reciprocity who does not hold a diploma from a college rated in class A. In this connection, we would like to state that we extend to no applicant under reciprocity a privilege which will not be accorded an applicant from this state.

"As you are aware, under the Gannt law, which is now our statute, there have been a number of certificates, as issued by this board, revoked, and as this law provides no means by which this board should receive notice of said revocation, this committee deemed it wise to place upon their endorsement certain precautions, and therefore agreed that no applicant would be indorsed by this board for reciprocity until he had executed a regular form request. Said request was to give number and date of certificate held by applicant, and should state in what county or counties same was on record. Applicant must state under oath in this request that said certificate had never been revoked by any court. Applicant must also swear

that he has never been an advertising or itinerant doctor while in possession of said certificate. This request must also bear certificate signed by the president and secretary of the county, district or state society, showing applicant to be a member in good standing of that society.

"At our November meeting there was appointed a permanent committee to be known as "Committee on Schools and Reciprocity." Said committee was composed of Drs. Stewart, Fink and Murphy, whose duty it was to act on all applications under reciprocity, as well as to report to the board from time to time as to any additional information received relative to the standing of the various medical colleges.

"Since the act went into effect vesting this board with the power to revoke license for certain specific causes, complaint has been filed with the secretary against four licentiates, namely, A. Kellett, H. C. Smisson, E. L. Ezell and A. S. McCrary, all being charged with violating subdivision D of section 6. A copy of complaint was attached to notice of due form and placed in the hands of the sheriffs of their respective counties, citing each of them to appear before the board on November 9 and show cause why their license should not be revoked.

"After taking the testimony in the case of A. Kellett and H. C. Smisson, and after hearing the argument of counsel, it was found that they were guilty as charged, and the license of each was revoked.

"The testimony in the case of E. L. Ezell showed that he had circulated certain advertising matter, but there was no evidence to show that same had been circulated since August 6, the time at which our law became effective. After hearing the argument of counsel, it was the opinion of the board that he was not legally guilty of a breach of act 219, and he was allowed to continue the practice of medicine on condition that he sign a stipulated promise to make every effort in his power, consistent with reason, to recall the advertisement heretofore circulated, and further promising never to be guilty of the practice of unprofessional medicine, which agreement or stipulation has been filed with the secretary of this board.

"Just before the hour set for the trial of A. S. McCrary, Chancellor Martineau issued a temporary order restraining the board from taking further action in the case. On February 11, 1910, the case was heard before

the chancellor and the injunction was made permanent, the chancellor ruling that while the act was constitutional, that subdivision D of same, which authorizes the board to revoke the license of a physician if he publicly advertises special ability to treat and cure chronic and incurable diseases, is too indefinite and uncertain for enforcement.

"Our attorney general, Mr. Norwood, has appealed the case to the Supreme Court, and we are awaiting a decision.

"In this connection the board wishes to extend our heartiest thanks to Attorney General Norwood and his assistant, Mr. Cunningham, for the valuable services which they have so freely rendered.

"In conclusion, will state that we have had printed some copies of laws governing the practice of medicine and surgery in Arkansas, together with rules and regulations of the board pertaining to college requirements, examinations and reciprocity, and would be glad to furnish anyone with a copy of the same who will make application to our secretary. Will also state that we have furnished a copy of our rules and regulations to both the Eclectic and Homeopathic boards, and am glad to report that they have each expressed an earnest desire to cooperate with us in raising the standard of the profession in this state, and as an evidence of this fact they have each adopted rules and regulations very much the same as those adopted by this board, and we have every reason to believe that our relationship is going to be harmonious, which will do much towards raising us in the estimation of our sister states where there is an objection on the part of some to extending reciprocity to any state operating under other than a 'one-board' system.

"Respectfully submitted,

"F. T. MURPHY."

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

Dr. E. C. Hay, chairman, presented the following report of the Reference Committee on the President's Address:

"We, the Reference Committee on the President's Address, beg to endorse the many pertinent and timely suggestions contained therein, and would suggest their adoption by the House of Delegates."

Dr. L. J. Kosminsky (Texarkana) moved the adoption of the report.

Carried.

REPORT OF THE CHAIRMAN OF THE COUNCIL.

To the Members of the House of Delegates of the Arkansas Medical Society:

"In accordance with the requirements of this body, I beg to submit this, my annual report:

"This report is based upon reports received from the various councilors, and the transactions of the meeting of the Council held during this session.

MEMBERSHIP.

"Membership by Districts—First district, 100; Second district, 77; Third district, 84; Fourth district, 102; Fifth district, 72; Sixth district, 64; Seventh district, 94; Eighth district, 146; Ninth district, 40; Tenth district, 101. Total membership by districts, 950.

"Since the secretary filed his report, twenty-five more members have been added, making 975 members.

"It is pleasing to note that this is the largest membership this society has ever enjoyed, and, adding to this number those yet to be reported, and which have been received by the secretary since his report was read, will make the membership almost 1,000.

COUNTY ORGANIZATIONS.

"Sixty-two counties have organized societies and have held meetings since the last report. Ten counties are without organizations, namely, Crittenden, Fulton, Izard, Pike, Scott, Marion, Newton, Van Buren and Madison.

POSTGRADUATE COURSE.

"The Council again calls attention to the great merit of the postgraduate course as prepared by Dr. Blackburn, and endorsed by the American Medical Association, and would urge each component society to adopt the work for the next year. Many counties have already seen the benefit of the course, and it should be adopted by more.

REORGANIZATION OF DALLAS COUNTY.

"Dallas County was reorganized by our worthy councilor, Dr. Niehuss, and a charter has been granted by the Council. Montgomery County has also been organized and been granted a charter at this session. This society has a membership of six.

RECOMMEND A FISCAL DATE.

"We are again urging that the fiscal date of this society be fixed as ending December

31 and beginning January 1; that the first Tuesday in December be fixed as a uniform day for the election of officers in the component societies, and that the councilors endeavor to bring about such modifications of the constitutions of the county societies as to comply with this suggestion.

ENDORSE UNDERGRADUATE MEMBERSHIP.

"A majority of the Council is still of the opinion that undergraduate membership is necessary to harmonious medical organization, and we believe the words, 'who is a graduate of a reputable medical college,' should be stricken out from section 5, chapter IX, of the constitution and by-laws of the Arkansas Medical Society.

OWEN BILL.

"The Council heartily endorses the bill now before the United States Congress, as introduced by Senator Owen, of Oklahoma, and request that each member of this society write his congressman and senator to work for the passage of this bill.

ELECTION OF OFFICERS.

"We suggest that the Nominating Committee make their selection of candidates immediately preceding the meeting of the House of Delegates which elects the officers.

"The following bills have been allowed: Councilors' expenses incurred in their work and permitted by the constitution; \$50.00 and interest to Parkin-Longley Company, balance due on typewriter for the editor of the Journal; stamp account of the editor, \$5.00, and stenographic services, \$3.00; \$5.00 to Dr. J. S. Wood, treasurer, the fee for making his bond.

"We recommend that the secretary and editor be paid an honorarium of \$400.00 each for their services.

"Drs. Niehuss and Southall were appointed to audit the books of the treasurer and secretary and reported that they found all records properly kept, and the statements made in their reports corroborated by an inspection of their books. There is today nearly \$2,000.00 in the hands of the treasurer.

"Respectfully submitted,

"J. C. WALLIS, *Chairman.*"

Dr. H. Thibault (Scott)—I move the adoption of the report, with the exception of the paragraph dealing with the admission of undergraduates.

The motion was adopted.

REPORT OF COMMITTEE TO ESTIMATE COST OF A CAMPAIGN AGAINST TUBERCULOSIS.

Dr. F. B. Young (Springdale)—I desire to submit the following report:

"To the House of Delegates of the Arkansas Medical Society:

"We, your committee appointed to investigate the feasibility of this society undertaking a campaign for educating the people of the state on the prevention and cure of tuberculosis, knowing that every member of this society has faith in the benefit of such a campaign, and believing as we do that 'faith without work is dead,' do recommend that this House of Delegates appropriate a sum of money not to exceed \$500.00 and place the same in the hands of a special committee, whose duties shall be to use this money in the way they shall think most effective in carrying on such a campaign."

Dr. A. Watkins (Little Rock)—I move the adoption of the report.

Seconded.

Dr. C. P. Meriwether (Little Rock)—As secretary of the Board of Trustees of the Tuberculosis Sanatorium (I am not speaking now authoritatively for the board), it is our intention to try to carry on a campaign of education through the state. It is our intention, if possible, to put a man out in the state lecturing in every town, illustrated by stereopticon views. I believe that is the best way to come at this question. I would suggest as an amendment to this resolution that the State Medical Society appoint a committee to confer with the Board of Trustees of the Tuberculosis Sanatorium and take up that line together, and work as to what would be the best interests for the state at large and for the Arkansas Medical Society.

President Lenow—As I understand the report, it does call for a committee to be appointed.

Dr. Meriwether—They are appropriating a specific amount of money and giving them authority to do that if they see fit. If we can arrange this thing that we believe will be self-supporting without this appropriation, I believe it will be the thing to do.

Dr. H. Thibault (Scott)—The resolution is that we appoint a committee, which may have power to spend any part of this \$500.00 necessary, and to coöperate if necessary with the trustees of the other society, or with the officers of the sanatorium. They can coöper-

ate with anybody they please, but they have the power to draw on the society for this sum of money. Therefore, I believe it is best to adopt the resolution as it stands.

The question was put and the motion adopted.

REPORT OF REFERENCE COMMITTEE ON SCIENTIFIC WORK.

Dr. L. J. Kosminsky (Texarkana), chairman, made the following report:

"We, the Reference Committee on the Report of the Committee on Scientific Work, add the following to the report of the committee:

"That the section officer of each section be allowed the selection of three or four papers, the balance of said program to be left to the Committee on Scientific Work."

Dr. F. B. Young (Springdale)—I move that the report be adopted.

Seconded and carried.

REPORT OF COMMITTEE ON RESOLUTION TO CONSOLIDATE MEDICAL SCHOOLS.

Dr. F. B. Young (Springdale), Chairman—At the last meeting of the State Society, imbued by the spirit of trying to start something, I introduced a resolution providing for the appointment of a committee whose duties were to attempt to consolidate the two schools in Little Rock and make them a part, in fact, of the university system; and I started something—and it has been going ever since. This committee has been misunderstood. We have no intention whatever of reflecting upon the faculty of either school or upon any member of the faculty of either school. We have had all kinds of trouble, but by compromising and getting together we have finally formulated a ten-line report, which I have the honor of presenting, and is as follows:

"We, your Committee on Consolidation of Schools, recommend that the Arkansas Medical Society ask the legislature to accept the offer made by the Medical Department, University of Arkansas, and that we ask the College of Physicians and Surgeons to offer their equipment, and the concessions for ten years, as agreed between themselves and Dr. E. E. Meek, but retaining their real estate. We also ask that both faculties resign and allow the Board of Trustees of the University of Arkansas to elect a faculty for the new institution. We also ask that a committee

from this society be appointed to assist in this work."

"F. B. YOUNG, *Chairman*;

"GEO. S. BROWN,

"J. C. WALLIS,

"L. KIRBY,

"C. S. PETTUS."

We realize that this does not meet the approval of all the gentlemen interested, but with a kind feeling towards all these gentlemen we have agreed, as a committee, on this as a basis of compromise, and we hope by the time the society meets next year that something will have been accomplished in this line.

Dr. E. C. Hay (Hot Springs)—I move that the report be adopted and the committee be retained.

Adopted.

Dr. Young—The member of this committee from the Second Councilor District, Dr. J. L. Burns, of Jonesboro, has resigned, and I would like for the chair to appoint another gentleman in his place.

President Lenow—I appoint Dr. C. M. Lutterloh, of Jonesboro.

RESOLUTION CREATING SECTION ON VENEREAL DISEASES IN AMERICAN MEDICAL ASSOCIATION.

Dr. E. C. Hay (Hot Springs)—Last year, before the House of Delegates, I presented a resolution requesting the organization by the American Medical Association of a section to be known as "Genito-Urinary and Venereal Diseases." It was passed by the House of Delegates. I went to Atlantic City and partially succeeded in having a new section organized. I met with some opposition from the Dermatological Section, and from the American Neurological Association, an independent organization from the American Medical Association. They thought it was an effort to disrupt them, and the Section on Dermatology thought it would take syphilis away from their section. The committee to which it was referred referred it back to the House of Delegates, stating that if 100 names were signed to a request requesting the House of Delegates to organize such a section they would organize the section. I think I will get 100 names very easily, but I would like the endorsement of this society again, and I offer this resolution:

"Resolved, That the House of Delegates of the Arkansas Medical Society instruct its delegates to the American Medical Associa-

tion, at its next meeting, in St. Louis, to endeavor to have the Section on Genito-Urinary and Venereal Diseases organized."

The motion was seconded by Dr. Pettus and adopted without debate.

VOTE OF THANKS.

Dr. J. G. Eberle (Fort Smith)—I move that a vote of thanks be extended to the Pulaski County Medical Society, the ladies of Little Rock who entertained the visiting ladies, the manager of the Hotel Marion, also the Board of Trade and the press, for the many courtesies extended.

Adopted.

Dr. C. S. Pettus (El Dorado)—As a delegate from the Union County Medical Society I came to this meeting instructed by my county society to introduce a resolution asking that it be made a law of the State Medical Society that no member of the county or State Society will be permitted to make examinations for life insurance for a fee less than \$5.00. I therefore offer to this body the following resolution:

"Resolved, That no member of the Arkansas Medical Society shall make an examination for an old line life insurance company for a fee less than \$5.00."

Seconded.

Dr. H. Thibault (Scott)—In view of the fact that this society has discussed pro and con this question for the last ten years, and we always came to the same conclusion upon it, I move that the resolution be laid on the table.

Seconded and carried.

Dr. Thibault—As there have been some instructions given to our delegates to the American Medical Association, I move that they be instructed to vote against any motion made to make ethical the patenting of any surgical instrument, and that it be incorporated in our code of ethics. There was a motion made last year to make it ethical for a surgeon to patent any surgical instrument that he makes. I hope our delegates to the American Medical Association will be instructed to vote against any retrograde movement in our code of ethics. Therefore, I move that they be instructed to vote against any motion to make ethical the patenting of any surgical instrument.

Seconded and carried.

RESOLUTION ENDORSING OWEN BILL.

Dr. C. S. Pettus (El Dorado) introduced the following resolution:

"Whereas, a bill known as the Owen bill having been introduced in the United States Senate to establish an independent department of health, having a special cabinet officer in that capacity, and that the American Medical Association is using every effort to perfect the passage of this bill, therefore be it

"Resolved, That the Arkansas Medical Society, now in session, unqualifiedly endorse this bill and request our senators and representatives in Congress to support it; furthermore, be it

"Resolved, That the president of this society appoint a committee to be composed of each district councilor to use their influence to interest the public concerning it, and have the leading politicians and influential citizens of their district write the senators and representatives of our state requesting their support of the measure."

While this question has been touched upon in the president's address and by the Legislative Committee, I feel that this is of enough importance to demand special action by the society, and that this be attended to within the next few days, because Congress will adjourn soon.

Dr. H. Thibault (Scott)—Inasmuch as that is incorporated in the report of the Council, I move that the doctor's resolution be adopted as part of the report recommended by the Council also.

Seconded and adopted.

ENDORSEMENT OF PURE FOOD AND DR. WILEY.

The secretary introduced the following resolution, which was unanimously adopted:

"Whereas, Public opinion has become much aroused over food adulteration; and

"Whereas, Diverse opinions have been expressed concerning the use of preservatives in the manufacture of foods; and

"Whereas, Certain preservatives make possible the use of foods that have begun to decay; be it therefore

"Resolved, That the Arkansas Medical Society, in convention at Little Rock, declares that it condemns the use as food preservatives of benzoic, boric and salicylic acids, and their compounds, and all other similar chemicals, as in the opinion of this society such preservatives are unnecessary and are detrimental to the public health; and be it further

"Resolved, That this society is opposed

to adulteration of food of any kind whatsoever; and be it further

"Resolved, That this society endorses the stand taken by the American Medical Association in its fight against food adulteration, and endorses its action in appealing to Congress for immediate amendment of the national Pure Food and Drugs Act; and be it further

"Resolved, That this society endorses the stand taken by Dr. Harvey W. Wiley, in his campaign for pure food and pure food legislation; and be it further

"Resolved, That the society commend the daily newspapers and individuals who have taken a stand against artificial food preservatives, and give them added encouragement to continue their fight."

On motion, the House of Delegates adjourned *sine die*.

First General Meeting.

WEDNESDAY, MAY 4, 9:00 A. M.

The first general meeting was held in the Auditorium of the Hotel Marion, Wednesday morning, May 4, at 9:00 a. m.

Prayer was offered by Rev. Henry N. Hyde, of Little Rock.

ADDRESS OF WELCOME ON BEHALF OF ARKANSAS.

President Lenow introduced Governor Geo. W. Donaghey, who spoke as follows:

"Ladies and Gentlemen and Members of the Arkansas Medical Society:

"I am indeed glad to meet you this morning. I wish to tell you a little incident in my life that, from the standpoint of the laity, will probably give you an idea of what the majority of men think of doctors. There was an incident in my life, something like fifteen years ago, in which I was associated with doctors in the higher practice and art of surgery probably more than falls to the lot of an ordinary layman. Before that time, however, I wish to tell you, I was somewhat skeptical as to the science and clinical practice of medicine and surgery. It was a mystery to my mind; and I then thought that bread pills were about as good as any medicine to cure those on whom physicians practiced. But, as I said, this incident came up in which I was thrown in one of the largest cities of this country and was in company with a doctor friend who sits in this audience now. He was attending postgraduate lectures in New York City, and asked me to go along with him, re-

marking that I might keep silent and look as wise as I could. I did as I was told. In the course of my attendance on those lectures, for something like a month, I saw surgeons operate and heard clinical lectures. I saw such men as Cole Wiley, Bob Wiley, Weyth, Bull, Dawbarn and many other men who honored the profession of the state and stood high before the medical men of that day.

"Now, I have not kept so well up on the practice of medicine and surgery since then, but I found that after taking that month's course of lectures, which I followed just the same as any other student, and I believe with more intense interest at that time than the average doctor present, I felt that I was pretty well informed in the practice of medicine and on a great many different lines of surgery.

"After that experience I have had great respect for the men engaged in the practice of medicine and surgery. I have had the most profound respect for every doctor who is applying himself and trying to learn all that can be learned about disease and the methods of cure.

"I wish to congratulate you on your assemblage here this morning. Your responsibilities in citizenship are as great as my own. Your responsibilities in the citizenship of this state and of this country are far greater than that of the average man. Why? Because you are associated closely with the people and you have great influence on mankind. No man ever sends for one of you who has not the greatest confidence in you. He has not only confidence in the honesty and intelligence of the members of your profession, but he has the greatest confidence in you as citizens. Whatever you say to him makes a lasting impression on his mind. Whatever you do in your community is looked upon as the act of a model citizen.

"I don't want to talk to you long this morning, for you have much business to transact; but I wish to say to you, in conclusion, that whatever I can do, as chief executive of this state, for the enhancement, for the betterment, for the uplift of the profession, for the bringing to the public notice the practice of medicine in Arkansas and its elevation to a higher plane, I shall do it.

"In welcoming you medical gentlemen to the capital city, I wish to say that if peradventure any one of you should happen to stay out a little late at night and do not get in as early as you might wish, and should it be-

come necessary for the chief executive to help you out of anything like a bad state of affairs, pull the string and he will do it."

ADDRESS OF WELCOME ON BEHALF OF THE CITY
OF LITTLE ROCK.

Mayor Duley spoke as follows:

"Mr. Chairman and Members of the Arkansas Medical Society:

"This is my second opportunity to welcome this society to our city, and I hope that it will fall to the lot of my successors to welcome you again.

"I cannot find words to give expression to the feelings that would be in line with your profession, but for all that I have, deep down in my mind, not only as an official, but personally, a strong desire to welcome the members of the medical organization to our city. I trust that you may become better acquainted with your capital city and its needs, and that you will realize what should be done for your city as it grows.

"I was very much impressed by the remark made by Governor Donaghey that you wield an exceptionally strong influence in the community in which you practice. I do not believe there is another profession, or a set of men, who stand in such confidential relations to the public as the physicians do. If that be true, then your influence, if you will devote a part of your time and talent to public affairs, must carry more weight than that of the average man. I cannot now recall the form of the expression, but it has been known to me for years. The substance is that the greatest study of mankind is man. That does not apply to your profession alone, but it applies to your executives, municipal and state. While you treat the physical ills, your executives have to treat men.

"You recognize the fact that today there are two factions that strive for supremacy in the public mind—one extreme trying to go ahead and build up, and the other obstructing every measure for improvement. These represent aggression and destruction. The latter are the ones who want to fight and try to destroy all that is built up. Shall we stifle our moral sentiment, our intellectual faculties, our public duty and obligation to the commonwealth, and not exercise our rights of expression, and let all lie dormant and allow everything to get by? Were you to devote only a portion of your time to the investigation of county, municipal and state

affairs, you would find that your influence would be far-reaching, and the recognition of your individual responsibility and activity would be stimulated when you recognized that there are those whose chief purpose in life is to create a false sentiment for the sole purpose of personal gain. You can do more good for the state, outside of the personal good that you can do for your patients, than any other class of men. I believe this to be absolutely true. By making an expression of this kind, I hope to cause you to give the matter due consideration and trust that you will go home believing that there is a responsibility resting upon you outside of your professional duties.

"Hoping that the meeting will be of value as a means of accumulating and disseminating valuable knowledge, and bespeaking for you a profitable and pleasant time while you are with us, I bid you welcome in behalf of the city."

ADDRESS OF WELCOME ON BEHALF OF THE PULASKI COUNTY MEDICAL SOCIETY.

Dr. Mahlon D. Ogden, president of the Pulaski County Medical Society, spoke as follows:

"It is with great pleasure that I, representing the Pulaski County Medical Society, welcome you within our jurisdiction; that is, we call it our jurisdiction. There are times when the municipal authorities make us think it is different, but for the purpose of the present occasion we may as well regard it as such.

"It is an honor and an advantage to have the State Society meet with us, and it is a source of gratification that it meets with us so often, because we are the gainers thereby.

"The Pulaski County Medical Society is one of the largest component societies in the state, therefore it has great interest—perhaps greater in some instances than any other of our component medical societies. We like to have the State Medical Society with us for the reason that we can watch them and see what they are doing while they are here. If they meet somewhere else we elect our representatives and trust to their diligence while away, and when they get back home we pat them on the back and tell them they have done well by way of encouragement. We have to trust the responsibility on a few when all of us cannot go. There is small excuse for any of us not to come to the meeting

when the State Society is brought to us; so that, selfishly, we are glad to welcome you here.

"The Pulaski County Medical Society, owing to the peculiar situation of affairs, is always intensely interested with you in any step looking towards a higher standard in the practice of medicine. Our medical society is thoroughly aroused on that live question of the day, and history is being made in Little Rock as regards higher medical education and higher medical requirements. Our medical society was one of the foremost to take an interest in education of the public in hygiene and in furthering the movement towards a State Board of Health to be operated as the National Board of Health is operated. I have no doubt we shall see the time when our public health organization is as perfect as the government organization everywhere—state, county and municipal; and, while there is much to be desired in our state and our city as regards public health, still, we are doing the best we can.

"Those of the Arkansas Medical Society who are especially interested in our city feel that we derive benefit; that we receive great aid from the meeting of our association, and the good influences surrounding a gathering of this kind.

"Along the line of legislation which has been proposed, some of it, I am proud to say, emanates from Little Rock, but a large part of it does not. Little Rock and the Pulaski County Medical Society stand ready at all times to help, individually and collectively, in any step toward furthering medical legislation looking toward the establishment of a higher standard, both in medical education and in the departments of public health.

"The Arkansas State Society is composed very largely of country practitioners. They are often mentioned as country practitioners. It is true that the Pulaski County Medical Society is composed largely of city practitioners, and city practitioners always have a kind word for their brethren out of town after they have been out in the country and assisted and associated for a while with the country practitioner. Every one of us who has been in that position realizes that he would probably have starved the first year or so had he been alone.

"We welcome you here. We welcome the ladies and those who have ladies and have brought them. Those who have them and have not, we are sorry that you could not

bring them. To those who do not possess them, we hope some time you will be able to find one to bring with you. We welcome you absolutely to our city. Our governor has offered to stand by you in case of felony; our mayor will stand by you in case of misdemeanor, and the Pulaski County Medical Society will stand by you for everything else.

"We offer you the freedom of the city, so far as we have it to give. Go to any of our stores, or to any of our banks, and tell them you are friends of ours, and you will get what you want. Let not the brevity of my welcome argue against its sincerity. We extend to you the open hand and fraternal greeting. We stand upon the threshold to meet you, and, as practicing physicians on the part of the Pulaski County Medical Society, we ask you to come in and abide with us."

RESPONSE TO ADDRESSES OF WELCOME ON BEHALF OF VISITING MEMBERS.

Dr. J. W. Scales (Pine Bluff)—I presume my extreme timidity and embarrassment in attempting to make a speech will be sufficient apology for a personal reference to myself. When I was first asked by our secretary to respond to the addresses of welcome here today, I modestly declined, upon the ground that as a speaker I was a complete misfit and unable to serve. However, he seems to be a man who is somewhat capable of bringing order out of chaos, at least to the point of having his own way. He replied to me in this way: "Doctor, organized medicine is taking on new life; there are progress and harmony everywhere, and a new order of things taking shape. There are peace, sunshine, happiness and prosperity where indifference once existed. We are on the move, and coming rapidly to the front. We shall soon be the foremost state in the South. Furthermore, this is census year, which of course will give Little Rock the first place in point of population. Therefore, it will be in order and eminently proper for some one from the city second in size to respond to the address of welcome."

For my part, I thought there were grave doubts as to our city being the second in population in the state. I concluded I would consult our authorities on the subject, thinking, perhaps, I might yet be able to get rid of this dilemma of having to make a speech; so I approached our mayor in regard to this matter. He said: "Yes, doctor, it is really true; we are the second city in population, but our census will show us to be fifth, be-

cause we have never enlarged our corporate limits."

The Board of Trade has just finished enumerating the population outside of our corporate limits, which amounts to a total of 19,426 inhabitants. I understand the census enumeration will give us 17,000 inside the city. Add to this our suburbanites and it will bring our population up to 36,000 inhabitants. We thought we would have to incorporate these into our city limits; went so far as to issue a proclamation to that effect. But our Board of Trade made the alarming discovery that Fort Smith was also extending her corporate limits, and that she had occupied about all of the available territory, and it would not do for us to be in such close proximity to her line. We would consider it a public calamity for Fort Smith to be *lying about us*. At any rate, this computation makes me one of the 36,000 people selected as representative, and this is the occasion for this address, and for my plea that you listen attentively, because it is "some pumpkins" that is talking to you.

Having been honored by this distinction, I must say that I have listened with open-mouthed astonishment to those who have preceded me. They have all said that they took great pleasure in having the privilege of speaking to you. That is an enigma to me. How a man can distort his brain so as to feel pleasure in making a speech is more than I can comprehend. They reminded me of the story of the little girl who had a pet lamb. The story runs this way:

"Mary had a little lamb,

Its fleece was white as snow;

And everywhere that Mary went,

The lamb was sure to go."

But Mary objected to the color of its wool, so she got some Diamond Dye and proceeded to dye it. Now, the only difference between Mary and the other speakers who have said they had pleasure in making a speech is this: Mary was a lamb-dyer, and they are—

Whenever I am expecting to be called upon to make a speech I am sure to remember an incident which occurred when I was a boy. My mother had decided to give me a good, genteel flogging for some disobedience on my part. I understood from the preparations so painfully apparent that the danger was imminent, and when her head was turned I disappeared suddenly and got as far away as I could without creating a suspicion on her part that I was on a run. When she got ready she

called out, "Here, son!" No response. She repeated the invitation by saying, somewhat more emphatically, "Come here, son!" Still no answer. Then, raising her voice, she cried out, "Son! Oh, Son! Come here quick." By this time I could tell from her tone that she would not tolerate any further delay to proceedings. I answered meekly, "Ma'am." She exclaimed, with great directness, "You heard me all the time, you little rascal!" I hastily rejoined, "No, mother; I never heard you the first two times."

Whether my extreme timidity in assuming to make a speech is due to fear of misuse of a little word so insignificant in point of substance as to amount to nothing, but vastly more important in construing the meaning, and which may obscure the more salient points under consideration, I cannot say. There is one thing, however, about which I am certain, and that is that impressions formed in youth often develop into habits, and these habits often govern our conduct throughout our entire lives. This fact impressed itself upon me this morning as I listened to the speeches.

I am still further embarrassed by your earnest greeting, and I am at a loss to frame a fitting response. The impression made upon me this morning as I listened to those warm welcome addresses, full of hearty sincerity throughout, is that I cannot do justice to the occasion. You have not only made an impression upon me that you are sincere, that you are anxious for our comfort, that you appreciate us as guests and are duly concerned for our welfare, but from the easy, felicitous manner in which you have expressed your feelings I infer that you are in the habit of extending just such cordial greetings to those who have had the good fortune to attend meetings of this kind in your midst. I can testify, because twenty-three years ago I first listened to your manner of welcoming this society. That same hearty welcome which you extended to us then has been repeated to us today, and many times during the twenty-three years.

Habit is not the only influence to which physicians are susceptible. It is equally true that they are sensible to influence and environment, and are rather more capable of adjusting themselves to such influences than any other profession. This thought or impression is peculiarly and vividly forced upon me this morning as I look around me and out beyond the long river front and behold the pic-

turesque scene which presents itself. On gazing along the river bank I noticed that so many improvements were under way—such a complete turn for the better in the last year or two. It occurred to me that your city was peculiarly favored in the way of double blessings. Here we have two cities—one on the north side and one on the south side; a Little Rock and a Big Rock. Two state capitols, two railroad systems, two telegraph offices, two telephone exchanges, two distinct types of modern skyscrapers, two medical colleges, two types of women, two new and distinct popular diseases, pellagra and hookworm; two distinct types of every disease, in fact.

So extremely susceptible are physicians in recognizing and being influenced by environment, and so versatile when necessity demands, that they have discovered two distinct types of treatment for every disease. For instance, appendicitis. Everybody knows that there are two kinds of appendicitis that occur in this city. It is like the little boy's composition on corn. "There are two kinds of corn. One grows on the ear and the other on the toe. To get the first kind off, you put on pepper and salt and gnaw it off, but for the corn on the toe, it is better to steal your daddy's razor and just whack it off." So it is when a case of appendicitis comes along. Your general practitioner gets hold of this case. He recognizes at once the peculiar variety of case from which the patient is suffering, and the salt and butter treatment is indicated, and the patient convalesces. The next time the patient presents himself to a surgeon his appendicitis has probably manifested a different phase, and the symptoms call for surgical procedure, and after a careful diagnosis he "takes dad's razor and whacks it off." The patient gets well. So favorably does he impress the patient that he at once recognizes the ability of the astute physicians in so readily distinguishing the two peculiar varieties, and considers himself fortunate in having fallen into such competent hands each time.

Now, gentlemen, in speaking about two kinds of women, one is the new woman, whose intentions are susceptible to serious doubt, and the other women, who are supposed to love home and stay at it—natural home makers, in fact—their duty being, first of all, to comfort and cherish the sterner sex and take care of the little ones. Their business at present seems to be a little shaky. With the pres-

ent outlook, I am afraid if we encourage the new woman the next census will show the sex to be like the French women—"going out of business."

I might mention your two medical colleges. Their good work is very gratifying to us all. Every year you are turning out young men who will be a very great credit to the State of Arkansas. This is the result of being educated at home, where they receive that patriotic impulse and incentive that makes them radiate and scintillate in the community. It reinforces and refines them. It makes them patriotic, law-abiding citizens. But do you know that hundreds are leaving our state annually for other schools? Have you given that feature any serious thought? Have you asked yourselves the question, "Can this thing be remedied?" Have you placed the matter before your Board of Trade and asked their coöperation in adjusting the matter? Have you told them what advantage it would be and the benefit which would accrue to the city of Little Rock to have our boys educated at home? Have you told them what benefit it would be to the State of Arkansas to turn out young men who would be loyal and patriotic citizens, who would look to their alma mater and be proud of Arkansas as a great state; who will respect and revere the state where love is law and wisdom the chief ruler?

The time will come later on when those of other communities who delight in stale jokes at the expense of the "Arkansaw doctor" will cease to poke fun at Arkansas; when our institutions will compare more favorably with those of other states; when our progress shall have been recognized, and when it shall be considered an honor to hail from her borders. If we will come right down to business we shall soon bring about such a state of affairs—possibly by combining the two schools.

We need to rear up patriotic, loyal citizens, who will honor their native heath. When I go away to other states I let them know that I am from Arkansas; they don't have to ask me. They can find out in more ways than one. They can tell it by my apparel; they can tell it by my looks.

President Lenow—We have with us today a brother, tried and true, who has been a faithful member of the Arkansas Medical Society for thirty-four years, and who was one of the first to have the honor of being made its president. I take pleasure in presenting to you Dr. W. B. Welch, of Fayetteville.

ADDRESS OF DR. WELCH.

President Lenow, Ladies and Gentlemen:

I suppose I am placed in this attitude as a kind of transition from the splendid addresses which have preceded in the morning's meeting. I do not appear on the program. I am an accident. It gives me great pleasure, however, to see medical men and to address them on medical subjects and discuss medical questions.

It has been said by your president that I was present at the organization of this body. I was one of its original organizers—a pioneer, so to speak—and I am exceedingly gratified to find the great growth it has attained and the prominent stage it has reached with reference to intelligence and respectability in comparison with other state organizations; the solid front it presents and the stand it has taken and the position it has assumed in the domain of medical learning. It is unnecessary to say anything about the *esprit de corps* that should energize and control the moral action of every medical man, young or old. Whether he knows or whether he believes it when he embarks in the profession, he is bound by the Hippocratic oath. He should know what it is and he should stand by it. We are a peculiar people. We mix with the common herd. We come and we go. We tranquilize and soothe.

It has been well said that you are nearer to the people than any other class of citizens. Your acquaintance often dates from the birth of the individual. The physician is nearer to the home and family. He knows more about them and what they have suffered. He is their confidant. He is trusted more than any other class of human beings that the community has to deal with, and therein lies his great responsibility as a citizen. You are charged with the secrets and the confidential relations of your clients. It is truly a tribute of honor to the profession that the laity may be assured that their secrets remain in your breast as sacred as if they were locked in oblivion.

Usually the trials and difficulties encountered by a physician are very great during his first years of practice. Especially is this true if he begins his career as what is called "the country practitioner." He must sacrifice his comfort to midnight calls in stormy weather and have a liberal amount of "git-up-and-git" about him if he is thrown upon his own resources. We should prefer to lo-

cate somewhere near an older member, just to lean upon him in emergencies.

I take it for granted that you are interested in your profession. I know that you are all interested in being present at every meeting of the State Medical Society to do your part. Attend the sessions of the different sections, participate in the discussions, and do anything and everything that you can to promote interest in your profession.

It has been stated by your governor (and I was glad to hear him say it) that he would do anything that was reasonable for the elevation of the profession of medicine in the State of Arkansas. I believe he would; but he is in very little danger of having much to do. Our legislature is not likely to give him an opportunity, so far as my experience goes. I have dealt with the Arkansas legislature to some extent. I do not know just how much this will reflect upon my reputation with my colleagues, but I make the confession. In my opinion, unless there is a marked improvement in the attitude of our lawmakers, I don't think the Arkansas legislature will ever be able to pass a law that will be of any material benefit whatever. I am very glad to have the governor's assurance of coöperation, but I don't think he is in any immediate danger of having to approve any measure that the legislature will enact bearing on the medical profession of this state, of benefit to it. The average member of the Arkansas legislature you all know. He imagines that the medical profession is a kind of close corporation; that it is a guild with sinister designs.

Let me tell you an incident that occurred a long time ago, when our legislature was in session. We wanted something done. Well, I wrote to a member of the legislature, and he replied to me that he would be in favor of "lowering medical fees and fixing them," when my letter to him said nothing as to fees. That was about all I got out of him. He was a member of the Arkansas legislature from my county of Washington. I must say that Washington County is just about as well represented as the average county in our state. We are putting in men ignorant and prejudiced, who can never grasp the situation or realize the aims and objects of the medical profession, and never will comprehend them. Therefore, our governor is absolutely immune as to anything the Arkansas legislature will do for the benefit of the medical profession in Arkansas.

I do not wish to consume your time with reminiscences, but will simply state that I was the first president of the Arkansas Medical Society; that I had toil and trouble, strife and difficulty to contend with in getting it under headway; but I am glad to say that I feel the worst is past. Our condition now is the best I have ever known; harmony everywhere prevalent; the outlook most favorable, and prospects bright. I hope the society may so continue in its ever-enlarging sphere of usefulness.

PRESIDENT'S ADDRESS.

First Vice President H. G. Wood, of Fayetteville, assumed the chair, and President James H. Lenow delivered his annual address, which appears on the first page of this issue of The Journal.

On motion, the general meeting adjourned until 9:00 o'clock Thursday morning.

Scientific Meeting.

WEDNESDAY, MAY 4, 1910.

SECTION ON DISEASES OF CHILDREN.

The Section on Diseases of Children convened at 2:15 p. m., under the chairmanship of F. T. Isbell, of Horatio. R. W. Lindsey, Little Rock, secretary.

The following essays were presented:

"Dysentery in Children," F. T. Isbell, Horatio.

"Infantile Mortality," J. T. Clegg, Siloam Springs. Discussed by H. Walker, Newport.

"Empyema," D. E. Broderick, Kansas City, Mo.

"Acute Otitis Media and Mastoid Abscesses in Children," Robert Caldwell, Little Rock. Discussed by Drs. Mann, Thibault, Blackburn, Moulton, Rinehart, Wood.

"Infantile Scorbustus," H. N. Street, Argenta.

Section adjourned, on motion, at 4:00 p. m.

SECTION ON DERMATOLOGY AND SYPHILOLOGY.

Immediately upon adjournment of the Section on Diseases of Children, the Section on Dermatology and Syphilology assembled. Called to order at 4:10 p. m. Chairman, G. A. Hebert, Hot Springs; secretary, J. H. Chesnutt.

After the chairman's address, an essay on "The Wasserman Reaction" was read by Morgan F. Mount, Hot Springs. Discussed by Drs. Bledsoe, Hay, Ogden and Chesnutt.

"The Intramuscular Injection of Mercury, With Special Reference to the Insoluble Preparations," by Eugene Carson Hay, Hot Springs. Discussed by G. A. Warren, Black Rock.

"Brain Syphilis," James H. Chesnutt, Hot Springs. Discussed by E. C. Hay and Morgan Smith.

This being the last essay offered, the section, on motion, adjourned at 5:45 p. m.

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE.

The Section on State Medicine and Public Hygiene met in the auditorium of the Hotel Marion, in open session, the public having been invited to attend. Called to order at 8:10 p. m., Dr. Morgan Smith presiding in the absence of the chairman, Dr. C. H. Cargile, Bentonville.

Dr. Charles Wardell Stiles, of Washington, D. C., presented an illustrated lecture on "Hookworm Disease," after which a symposium on the same disease was given, as follows:

"Pathology and Etiology," William H. Deaderick, Helena.

"Diagnosis and Symptomatology," Albert McGill, Chidester.

"Treatment," W. S. Stewart, Pine Bluff.

At the conclusion of the symposium a resolution was adopted expressing thanks and appreciation of John D. Rockefeller's humanitarian gift of one million dollars to aid in the campaign for the eradication of the hookworm disease in the South.

On motion, the meeting adjourned.

Second General Meeting.

THURSDAY, MAY 5, 9:00 A. M.

Called to order at 9:00 a. m. President Lenow in the chair.

On motion of Dr. R. H. T. Mann, of Texarkana, seconded by Dr. H. Thibault, of Scott, a vote of thanks was tendered Dr. Charles Wardell Stiles, of Washington, D. C., for his excellent illustrated lecture given before the Section on State Medicine and Public Hygiene.

Dr. Morgan Smith, secretary, read an invitation from the trustees of the Old Confederates' Home to the members of the Arkansas Medical Society to take dinner at the home immediately upon adjournment at noon. Carriages would be in readiness at the door, and it was desired that all who might wish to go would notify the secretary at once.

There being no further business, the general session adjourned at 9:10 a. m.

Scientific Meeting.

THURSDAY MORNING, MAY 5.

SECTION ON PRACTICE.

The Section on Practice was called to order by Chairman Grammar, of Searcy, at 9:10 a. m.; A. E. Cone, of Portland, secretary. The program was as follows:

"Postanesthetic Acidosis," J. G. Eberle, Fort Smith. Discussed by Drs. Thibault, Runyan, Vance, Mann, Witt and Butterfield.

"The Part of the State and Municipality in the War Against Tuberculosis," J. S. Shibley, Paris. Discussed by Drs. Stiles, Lutterloh and Walt.

"Quinin Anesthesia," H. Thibault, Scott. Discussed by M. G. Thompson and A. E. Cox.

"Tonsillectomy," R. H. T. Mann, Texarkana. Discussed by Drs. Caldwell, Thibault, J. G. Watkins and McCarroll.

"Preventable Blindness," J. G. Watkins, Little Rock. Discussed by Drs. Moulton and Dorr.

"Pellagra," A. J. Vance, Harrison. Discussed by Drs. Parker, Smith, Lindsey and Stiles.

Adjourned to 2:00 p. m.

AFTERNOON SESSION.

The Section on Practice was called to order at 2:00 p. m., Chairman Grammar presiding. The following essays were read and discussed:

"The Medical Side of Appendicitis," J. S. Rinehart, Camden. Discussed by Drs. Broderick and Pettus.

"The Pharmacological Action and the Therapeutic Uses of Alcohol," C. E. Witt, Little Rock. Discussed by Drs. Petty, Walt, Dorr, E. R. Dibrell, Merrifield, Warren, Hathcock and Chesnutt.

Symposium on Typhoid Fever—"Diagno-

sis and Symptomatology," A. E. Harris, Little Rock; "Prevention," Dr. O. K. Judd, Little Rock; "Some Peculiar Features," G. A. Warren, Black Rock; "Treatment," E. R. Dibrell, Little Rock. Discussed by Drs. Witt, Cox, Gibson, Shibley and Lindsey.

"Arithro Melalgia," J. A. Chesnutt, Hot Springs. Discussed by Dr. Judd.

"Facts Relating to Health Conditions in the Mississippi Valley," Vernon MacCammon.

"My Limited Experience in the Management of Hookworm Disease," A. E. Cox, Helena. Discussed by Drs. Dinwoody, Blanks and MacCammon.

This concluded the program, and the section adjourned at 5:30 p. m.

Third General Meeting.

FRIDAY MORNING, MAY 6.

Called to order at 9:00 a. m., President Lenow in the chair.

The chair announced that the House of Delegates, which was to have convened at 9:00 a. m., had postponed their meeting until the close of the Section on Gynecology and Obstetrics.

On motion the privileges of the floor were extended Dr. Jabez Jackson, of Kansas City, and Dr. H. S. Crossen, of St. Louis.

The chairman of the Committee on Arrangements announced that the visiting ladies would be entertained at the Majestic Theater at 3:00 p. m., and the banquet tendered to the visiting members and guests would be held in the convention hall of the Hotel Marion at 9:00 p. m.

Adjourned.

Scientific Meeting.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Immediately following the adjournment of the general session, the Section on Obstetrics and Gynecology convened, under the chairmanship of J. B. Roe, of Calico Rock; secretary, W. R. Rodman, of Cushman.

Following the chairman's address, the following papers were read:

"Modern Methods of Treatment of Severe Prolapsus Uteri," H. S. Crossen, St. Louis, Mo. Discussed by Drs. Dunaway and Thibault.

"Pelvic Adhesions," W. C. Dunaway, Little Rock. Discussed by Drs. L. Kirby, Thibault, Dorr, Sweatland and Crossen.

"Uterine Fibromyoma," J. W. Smith, Hot Springs. Discussed by Dr. Snodgrass. Dr. Smith presented thirteen specimens from his practice.

"Cesarean Section Under Favorable Circumstances," A. G. Harrison, Kensett, and "Cesarean Section," George S. Brown, Conway, were read in symposia. Discussed by Drs. Meek, Rinehart, Cox and Sweatland.

"Pelvic Cellulitis in the Female," R. C. Dorr, Batesville. Discussed by Drs. Snodgrass and Lutterloh.

"A Plea for More Accurate Diagnosis in Gynecologic Conditions," W. A. Snodgrass, Little Rock. Discussed by Drs. Lutterloh, Sweatland, Dunaway, Meek, Cox, Rowland and Thalliere.

This completed the Section on Obstetrics and Gynecology, and on motion the section adjourned.

Immediately upon adjournment of the Section on Obstetrics and Gynecology, the House of Delegates convened.

AFTERNOON SESSION—SECTION ON SURGERY.

Called to order at 2:40 p. m., J. A. Lightfoot, of Texarkana, in the chair; E. E. Barlow, Dermott, secretary.

After the delivery of the chairman's address the following papers were read:

"Membranous Pericollitis," Jabez N. Jackson, Kansas City. Discussed by Drs. Anderson Watkins, St. Cloud Cooper, Sweatland, Guthrie, Crossen, Broderick, Dunaway.

"Treatment of Fractures of Long Bones," H. H. Smiley, Texarkana. Discussed by Drs. Wood, Rightor, Lenow, Runyan, Hawkins, L. Kirby, Chesnutt and Snodgrass.

"Surgical Tuberculosis," W. A. Snodgrass, Little Rock. Discussed by Drs. Dunaway, Runyan, Smiley, Meek and Williams.

"An Unusual Case of Appendicitis," C. S. Pettus, El Dorado. Discussed by Drs. Runyan and H. E. Williams.

"Cholelithiasis," F. B. Young, Springdale.

"Acute and Chronic Cholecystitis," J. W. Smith, Hot Springs. Discussed by Drs. Thibault and H. E. Williams.

"Exophthalmic Goiter," H. H. Kirby, Little Rock. Discussed by Drs. Thibault and J. W. Smith.

This being the last paper of the section, on motion, the meeting adjourned.

Fourth General Meeting.

FRIDAY AFTERNOON, MAY 6.

Immediately upon the adjournment of the Section on Surgery, members present were asked to remain for the general session, which was called to order at 6:11 p. m., Dr. James H. Lenow presiding.

The chair appointed a committee of two, consisting of Drs. Lutterloh and L. Kirby, to escort the president-elect to the stand. After being introduced, Dr. Dorr responded, thanking the society for the honor conferred, assuring them of his best efforts during the coming year.

The secretary read a communication from the Arkansas Association of Pharmacists, presenting the greetings of that body, in Fort Smith assembled, and requesting the coöperation of the Arkansas Medical Society in endeavoring to secure suitable legislation regulating the itinerant vender of quack remedies, and confining all medication, so far as possible, to the remedies shown in the U. S. Pharmacopeia and National Formulary. On motion of Dr. Kirby, it was resolved that the Arkansas Association of Pharmacists be assured of the hearty sympathy and support of the Arkansas Medical Society. Carried without dissent, and the secretary was instructed to acquaint the Pharmacists' Association of this action.

On motion the general meeting adjourned *sine die*.

Personals.

Dr. A. G. McGill, of Chidester, has moved to Little Rock, and will have offices in the State National Bank Building.

Dr. Paul Sheppard has moved from Texarkana to Melvin, Texas, and Dr. G. M. Eckle from Texarkana to Galveston.

Dr. J. A. Thompson has recently moved to Dermott from Collins.

Dr. J. M. Stephens has changed his address from Clover Bend to Lauratown.

MARRIED.

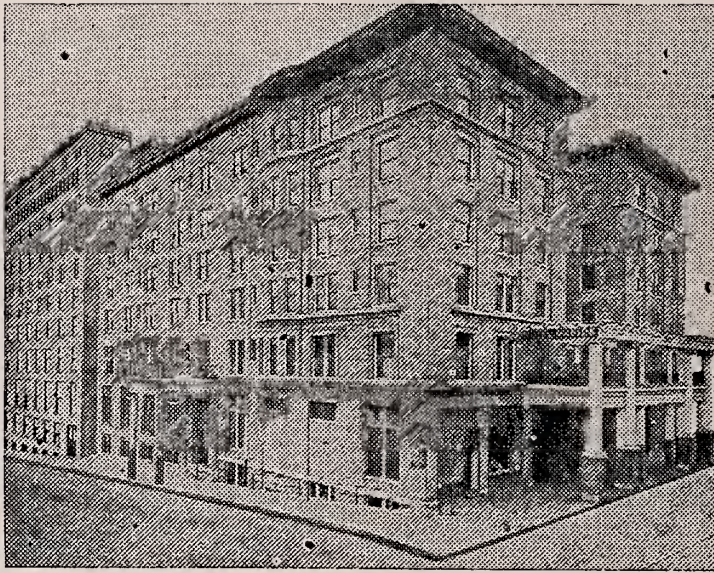
Dr. Gustave G. Altman, secretary of the Phillips County Medical Society, was married to Miss Estell Newman Tuesday, June 7, in the parlors of the Lotus Club at Helena.

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In addition to the present hotel, there is an annex in course of construction situated north of the west wing of the present building, and will be connected on each floor. On the office floor will be situated the Convention Hall, with seating capacity of 1,000. In addition to above, there will be 135 more rooms, making a total of 325. This addition will be ready for occupancy January, 1910.

The Hotel Marion will be official headquarters for the Thirty-fourth Annual Session of the Arkansas Medical Society.

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Original Articles.

THE PHARMACOLOGICAL ACTION AND THERAPEUTIC USES OF ALCOHOL.*

C. E. Witt, M. D., Little Rock.

In discussing this subject, I shall confine my remarks, so far as possible, to practical facts, and will not deal with vague theories which have been proclaimed from time to time by various individuals. In these modern times, theories in medical therapeutics are not what the sincere physician and his clientele so much desire and need, but plain and unassailed facts in matters of health, life and happiness are the golden nuggets around which all honest research and investigation hover.

I think it is the plain duty of every physician to know the pharmacological action of a drug before he assumes the responsibility of using it as a therapeutic agent. He must know its effects upon the normal human body before he can intelligently apply it for the purpose of restoring a pathological condition back to a normal condition. I wish to be understood before entering into a discussion of this subject. While I may or may not be in hearty sympathy with the ethical and moral phases of the present temperance movement, I shall endeavor to confine my remarks to the scientific medical side of the question. I might here state, in order to emphasize the object of this paper, that the present prohibition movement, which is now going on in all civilized countries, is a result of scientific research and investigation into the effects of

alcohol upon the human body, and is not based so much upon the moral and religious aspects of the subject. In other words, the present movement is an evolution of education among physicians and the laity.

The study of alcohol by the medical profession was neglected until comparatively a few years ago, and probably no drug has been used with as little definite conception of its immediate physiological effects upon the human body, both by physicians and the public. We may with propriety ask, What is alcohol? The scientist tells us it is an excrement of the yeast fungus, a parasite which is midway between a plant and an animal. Chemically it is a compound of carbon, hydrogen and oxygen, and belongs to the marsh-gas series, CH_4 . It is found nowhere in nature. It takes man's inventive genius to make alcohol. Starch granules are broken by mechanical pressure, and under proper conditions of heat and moisture decomposition is secured.

The yeast fungus finds favorable environment for the operation of its physiological function, and excretes that subtle spirit known by the world's markets as spirit of wine, beer, whisky, etc., scientifically known as alcohol.

Chemically it is closely related to chloroform, ether, chloral, and many of the newly discovered synthetic hypnotic drugs.

While alcohol is so intimately related chemically to the various hypnotic and anesthetic drugs, its pharmacological action upon the vital functions of the human body are remarkably similar. Some strange and unaccountable things have happened in the field of medical therapeutics during the past few years. Many of us remember when alcohol was assumed to be antagonistic—an actual physiological antidote—to chloroform and

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

ether. So strong and decided was this opinion, a mixture of alcohol, chloroform and ether, known in text books and medical literature as the "ACE Mixture," was exploited as a safer anesthetic than chloroform or ether alone, on the assumption that alcohol kept the heart stimulated, while the other drug produced the anesthesia. According to the investigations of Dr. George Rubin, pathologist, Rush Medical College, and his experiments reported in the *Journal of Infectious Diseases*, May, 1904, we find that alcohol, ether and chloroform each had the same effects in depressing the bodily defenses of rabbits, guinea pigs, etc., against various infectious diseases, such as streptococcus and pneumococcus infections. Alcohol affects, either profoundly or in a sly, subtle way, every vital function of the human body, the various perversions of the body, of course, depending upon the dose and the frequency of administration.

Before approaching the discussion of the action of alcohol upon the human system, it may be profitable to refer briefly to a consideration of its action upon different manifestations of life.

We are told by those who have investigated the matter that alcohol does not sustain plant life. If the soil around the roots of a geranium is moistened with dilute alcohol, in three days the life of the plant will be so extinguished it cannot be revived. Darwin tells us that the leaves of the *drosera rotundiflora* will wither in twenty-five minutes if the plant is placed in an atmosphere charged with alcoholic vapor. Dr. Ridge, of London, England, has demonstrated that the seeds of cress in bottles containing equal parts of garden mould, air and water, exposed to the same degree of light and heat, will germinate and flourish, but if to the water 1 per cent of alcohol be added, germination and growth are completely prevented. Again, he clearly demonstrated that one drop of alcohol to one pint of the water perceptibly retarded growth and rendered the plant paler than natural. The same scientist also tells us that stronger alcoholic solutions will completely prevent the growth of such vegetables as onions and potatoes.

Prof. Hodge, of Clark University, who is almost without a peer in the scientific world, found by actual experiment that one part of alcohol in 100,000 parts of medium retarded the growth of yeast; and as we rise in the animal scale, every investigation shows that

alcohol is antagonistic to life. Take, for example, the water flea, jelly fish, frogs' eggs and tadpoles, which shuffle off their mortal coil if placed in a solution of one part of alcohol to 4,000 parts of water. Fere, of Paris, France, experimenting, found that hens' eggs incubated in an atmosphere containing vapor of alcohol hatched slowly and the chicks were always unhealthy and deformed.

We are informed by those who know by unbiased and faithful experimentation that breeding dogs given daily a moderate amount of alcohol bring forth uniformly unhealthy pups, many of which die during the first few days after birth. Many others are affected with convulsive paroxysms, and very few arrive at maturity in a healthy condition.

Laitinen, of the University of Helsingfors, and Prof. Frankel, of Halle, made experiments on 342 animals, including dogs, rabbits, guinea pigs, fowls and pigeons, and their reports state that without an exception alcohol, in every form, rendered these animals more susceptible to disease than were the controls.

May I, in this connection, be allowed to quote a universally accepted physiological principle, as enunciated by Prof. W. S. Hall, of the Northwestern University, Chicago, which is as follows: "Not only will the poisonous excretion of any living organism poison the organism which produces it, but it will also have a poisonous action upon any organism of a higher rank. The poisonous excretion of the alcoholic yeast is poisonous not only to the yeast, but also to all animals."

Keeping this physiological principle in mind, we can more intelligently study the action of alcohol upon the human system. The human body, like all other animal bodies, is composed of cells, and the essential constituent of every cell is its protoplasm; therefore, the cells of all organs and tissues, plus their protoplasm, furnish the chief constituents of life. According to the normal activity or perverted activity of these cells and protoplasm, we have health or disease. Each class of cells has its own peculiar functions to perform. Some manufacture the solids of the body, others generate the fluids; some build up bone, nerve and muscle, and others tear down and prepare the rubbish for removal. Again, some are scavengers, working here and there gathering up the waste.

What is the action of alcohol upon these cells and protoplasts? Sims Woodhead, the eminent Scotch pathologist, Massart, Bordet

and Metchnikoff tell us that alcohol in the minutest doses depresses, cripples, renders inactive, or in some way disturbs the important functions of these cells. The human body has a natural vital resistance against the inroads of disease-bearing microbes, and the cellular elements of the tissues and corpuscular elements of the blood form the bulwarks of this vital resistance. Depress, paralyze or render inactive these fortifications, disease marches in and takes charge of the citadel. Physiologists tell us the function of the white blood corpuscles, among other offices, is to destroy noxious elements and disease-producing germs when they enter the blood. In this connection I may be allowed to quote a few words from the great Metchnikoff. He says: "Alcohol, even in small doses, so affects the white corpuscles that they cease from exercising their microbe-destroying function."

Another puts it a little more emphatically, thus: "Alcohol renders the white blood cells less alert, so they remain passive and motionless (intoxicated) in the presence of dangerous microbes, which it is their duty to destroy. This action of alcohol upon the phagocytes of the blood is now universally accepted. Every text-book and all medical literature from which I have been able to collect data say alcohol decreases the oxygen-carrying power of the red blood corpuscles, and all recognize this function of the red blood cells to be vital to the well-being of all animal life. Destroy, or even disturb, the oxygen-carrying function of the hemoglobin, and the result is a crippled body.

I come now to consider the action of this drug upon such vital functions as the vascular system, the muscular system, digestive system, bodily temperature and the nervous system.

First, the vascular system. I fully recognize the fact that there has been a great deal of discussion upon this phase of the subject. That there is an honest misunderstanding among physicians and the laity in reference to the real effect of alcohol upon the heart and blood vessels there is no sort of question. The only way for us to settle the question definitely, it seems to me, is to let such men as Schnyder and Dubois, of Berne, Switzerland, Kraepelin, of the University of Munich, Martin Mayer, of Heidelberg, and Hallsten, of Helsingfors, in the old country, and the late Nathan S. Davis, Sr., M. D., formerly dean of Northwestern University Medical College, Chicago, H. A. Hare, professor of therapeutics

and materia medica, Jefferson Medical College, H. C. Wood and a host of other scientific investigators, who, with the aid of unerring instruments of precision, such as the sphygmograph, clearly and definitely have demonstrated just what this drug does to the circulation. These experiments have been made both upon man and animals with the aid of the sphygmograph—an instrument devised as far back as 1855—which shows the movements, form and force of the arterial pulse. The time in which I have to read this paper will not allow me to give in detail what these investigators have to say, but I will make a few quotations.

Prof. Hobart A. Hart says: "Careful scientific research has proved that alcohol is in no sense a *true* stimulant to the vascular system," and he says again that "*small* doses so diluted as to not act as an irritant to the stomach produce no change in pulse rate or pulse force, but if the dose is large enough to cause any appreciable change in the activity of the circulation, it is in the nature of *depression* rather than stimulation, and that these large doses always depress the myocardium and the vasomotor system." Matthew Woods, M. D., of Philadelphia, member of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, says: "Alcohol is no longer *thought* to be a stimulant, but is *known* to be a depressant to the heart." Studies have been made upon the isolated frog's heart by Locke, Ringer, Sainsbury, Maki and Dresser, with the *final conclusions* that alcohol is a direct depressant to the cardiac muscle. Martin and Hemmeter, experimenting upon the isolated mammalian heart, reached the definite conclusion that blood containing one-quarter of 1 per cent of alcohol, the work done by the heart is diminished within a *minute*.

Locke and others have made some *comparative* experimentations upon the isolated heart of the rabbit with grape and fruit sugar and alcohol, with the result that the sugar caused a gradual augmentation of the contractions of the heart and that these substances are to be considered a food and stimulant to the heart muscle. In no instance was a nutritive or stimulating power of alcohol noticed or proved. On the contrary, it was always shown that if the heart was supplied with alcohol in a quantity producing an effect of any kind, this effect consisted either of a passing irregularity of pulsation, or in a diminution of the strength of the heart contractions, or in

a lasting arrhythmia and a reduction in the volume and number of pulsations.

H. C. Wood, professor of materia medica and therapeutics in the University of Pennsylvania, and member of the National Academy of Science, makes this significant statement: "Certainly the known action of alcohol upon the isolated frog's heart and the diastolic arrest produced by it in the mammals, prove that in large doses alcohol is a direct depressant to the heart and it has also depressing influence upon the muscle fibres of the walls of the vessels and the vasomotor centers."

That alcohol increases the velocity of the blood current is a well recognized fact, and this increased velocity is brought about by the removal of the resistance in the peripheral arteries and capillaries and the removal of this natural resistance is caused by a paralysis or depression of the vasomotor centers which preside over the caliber of these vessels. Doubtless this increased velocity of the blood current is one reason some clinicians and many of the laity imagine the vascular system is stimulated by alcohol. By causing the diameter of a water pipe to become suddenly larger, you will observe increased velocity of the water current without any increase in the propulsive power—the pump engine. With the light which we have now before us, and with the ever increasing knowledge received by investigation and laboratory tracings, we can confidently and definitely say that alcohol is not a stimulant, but a positive depressant to the vascular system.

Second—The Muscular System: A few years ago Dr. Angelo Mosso invented the ergograph, an instrument for measuring and ascertaining muscular energy and power. The use of this unerring instrument by such men as Schnyder and Dubois, as far back as 1903, upon themselves and others, scientifically demonstrated that alcohol has no power to increase muscular efficiency, but in every instance it was shown that muscle ability and energy were plainly diminished. In other words, alcohol given in quantities sufficient to affect the system weakens muscular power and endurance. This is true for both voluntary and involuntary muscles. Benjamin Franklin demonstrated upon his own person that muscular vigor and strength were decreased by the use of alcohol. "Both science and the experience of life," says Dr. John J. Abel, of Johns Hopkins University, "have exploded the pernicious theory that alcohol

gives any persistent increase of muscular power," and he further states that "alcohol and effective work are incompatible."

The beer-drinking laboring man has long since learned that he cannot stand beside his abstemious friend and do the same amount of work.

Third, the Nervous System: Alcohol has a distinct and special predilection upon this system. Alfred Gordon, M. D., of Philadelphia, associate in mental and nervous diseases, Jefferson Medical College, neurologist to Mount Sinai, etc., has this to say: "Carefully conducted experiments and observations show conclusively that alcohol has an *anesthetic* effect on the nervous system, instead of a *stimulating* one."

H. A. Hare, M. D., of Philadelphia, in his latest text-book on Practical Therapeutics, makes the following significant statement: "Alcohol never acts as a true stimulant to the brain, the spinal cord, or the nerves. On the contrary, its dominant influence is depressant." He further says: "The effects of moderate doses differ from the effects of large ones in degree, but not in kind." In other words, Professor Hare tells us that moderate doses of alcohol moderately depress all the nervous system, and large doses profoundly depress it. The spinal reflexes are increased, but this is caused by a depression of inhibition. The increased activity of thought and speech is caused *not* by stimulation, but by depression of the inhibitory nervous apparatus presiding over these functions. Physiologists tell us that the thought and speech are controlled or regulated by this inhibitory nervous apparatus. Depress this inhibition and speech and thought run rampant superficially, and not deeply and profoundly. The fellow under the influence of this drug may speak words more rapidly, but they are expressions of silly, superficial thoughts. No man ever won in an oratorical contest because he was under the influence of alcohol. Muscular coördination is lacking on account of depression of the brain and the lower nervous system. Impaired mental power and disordered judgment combined with imperfectly acting motor and sensory pathways make a picture familiar and characteristic to every case under the influence of this drug. The symptoms produced by small and large doses differ again in degree, but not in kind. Every investigation shows that alcohol does not increase mental vigor, nor its depths, nor does it enable a man to work out a problem which is difficult. Stevens' Modern Materia Medica

and Therapeutics speaking on the effects of alcohol upon the nervous system, has this to say: "The first effect of alcohol upon the nervous system is one of *apparent* stimulation, with *indications* of increased mental and motor activity," but he says, "as a matter of fact, *attention*, *self-control*, *judgment*, and the higher mental processes generally, as well as the capacity of the individual for physical work are distinctly *impaired* at once by even small quantities of the drug, and, therefore, the vivacity of speech and the excess of motor energy often *displayed* in the early stages of alcoholic intoxication, must be attributed rather to a *depression* of the inhibitory or controlling functions than to the stimulation of the higher cerebral centers." This statement of Professor Stevens is in perfect harmony with the statement just quoted from Professor Hare's text-book.

H. C. Wood makes this statement in his last text-book: "We know by experiment that the vapor of alcohol is capable of producing this stupor known as anesthesia, and that this anesthesia may deepen into death, accompanied by all the phenomena of fatal ether narcosis.

We are told by physiologists that nervous impressions travel over nerves in healthy persons at the rate of ninety-one feet per second, but when the same individual is under the influence of alcohol, the rate of transmission of impressions is only thirteen feet per second; that is to say, it takes a man, partially intoxicated, seven times as long to hear, to feel, to taste, to receive an impression of any sort, as a normal person.

The question arises in the minds of thoughtful men how are these conditions of the nervous system produced. Sims Woodhead answers this inquiry by telling us that alcohol is a *narcotic* poison to nerve protoplasm of every part of the nervous system, and he further says that it produces changes in the nerve tissues closely allied to those produced by toxins of diphtheria bacilli and other bacterial poisons. Kleefield demonstrated that alcohol when taken into the body produces an immediate effect upon the cells of the brain, and these effects of which he speaks are changes in the form of the brain cells which are identical with those of an animal in a state of hibernation or a person in an unconscious state. When the drug is taken in repeated doses, its effect becomes permanent. The nerve cells are disorganized or destroyed, and the injury done can never be re-

paired. This is why insanity caused by chronic alcoholism is generally hopeless.

Max Kassowitz, professor diseases of children in the University of Vienna, says: "Alcohol is a *narcotic* poison different only from other narcotics belonging to the same group (chloroform, chloral, ether, etc.), in doses necessary for narcotics." Expressed in another way, Professor Kassowitz tells us it simply requires more alcohol to produce narcosis, than it does chloroform or ether.

Fourth, the Digestive System: Practically all text-books teach that alcohol increases the amount of gastric juice simply by irritating the mucous membrane of the stomach. In this way the appetite is sharpened and usually an acute desire for food is produced. However, recent experiments upon persons with gastric fistula have been made, and the results showed that when alcohol was put into the stomach there was an increase in the amount of hydrochloric acid and a decrease in the amount of pepsin. When water or tea was used, the normal proportions of pepsin and hydrochloric acid were secreted. From these experiments we are able to understand and are able to interpret the faulty digestion and bad assimilation in people who mix their food with excessive alcoholics.

The report of the famous Committee of Fifty, to which I will again refer, upon the action of alcohol upon the digestive system has this to say: "Pure alcohol in large doses produces *immediately* and in a marked degree a retarding effect upon digestion, while in *small doses* its effect is such that it cannot be said to be in any respect an aid to the digestive process.

Fifth, Alcohol Prevents Immunity: During the past decade or two much has been said about immunity. Laboratory investigations by the highest and best authorities, both in our own country and abroad, show conclusively that alcohol even in small doses hinders immunity to all infectious diseases. An absolutely normal body possesses within itself a vital resistance, and the power of this resistance is in the cellular elements of the tissues. This vital resistance against the inroads of disease is one of the marvels of the scientific world. It has been proven over and over again that alcohol in the blood and tissues of the body is antagonistic to the normal functions and life of the cellular elements of the human body.

Such authorities as Massart, Bordet, Metchnikoff and Sims Woodhead tell us that "alco-

hol in dilute solutions prevents the white blood corpuscles from attacking invading germs and thus deprives the system of co-operation of these defenders and reduces the powers of resisting disease.

The experiments of Richardson, Harley and Kales, and many others, have demonstrated the fact that 1 to 5 per cent of alcohol in the blood of the living human body alters the appearance of the corpuscles, reduces the oxygen-bearing elements and prevents their reoxygenation. Similar deteriorating effects have been traced to the cells of all tissues of the body and especially to those of the brain and nerves. It is, therefore, a settled and definite fact that this drug predisposes the individual who habitually takes it in any form to disease. It is estimated to almost a mathematical precision that moderate drinkers of an alcoholic are ninety per cent more liable to disease than are total abstainers.

In order to emphasize this point, I wish to give from eminent authorities a few quotations, the truth of which has never been denied, so far as I know.

Legrain, of France, says: "The increase of consumption is proportionate to that of alcoholism."

Dr. Adams, formerly professor of medicine in Anderson University, of Glasgow, reported that of two hundred and twenty-five cholera patients treated by him, nine and one-half per cent only were total abstainers, and ninety-one and one-half per cent of the drinkers died. Dr. Adams says: "I have found the use of alcoholic drinks to be a great predisposing cause of malignant cholera. So strong is my opinion on this point that were I one of the authorities and had the power, I would placard every spirit shop in town with these words, 'Cholera Sold Here.'"

I wish to as briefly as possible refer to some experiments by Dr. George Rubin, pathologist, Rush Medical, upon animals which had been subjected to various experimental infections:

"Into a rabbit having a leucocyte count of 8,600 was injected hypodermically 1 c.c. of fresh streptococcus culture; the next day the leucocyte count was 15,400; the following day 23,900. This rabbit made a good recovery.

"At the same time another rabbit of same weight having a leucocyte count of 8,800 was given 4 c.c. 95 per cent alcohol, and then 1 c.c. of streptococcus culture; the next day the leucocyte count, instead of increasing, had fallen to 7,000, and the following day it was 7,900.

Ten days after inoculation this rabbit died in a cachetic state.

"Another rabbit with a leucocyte count of 10,500 was given $1\frac{1}{2}$ c.c. of pneumococcus culture; the next day its leucocyte count had risen to 11,400; the following day it increased to 18,000. The rabbit recovered without any serious trouble.

"At the same time there was injected into another rabbit whose leucocyte count was 14,000, 3 c.c. of alcohol and 1 c.c. of pneumococcus culture. This rabbit lived only twenty-four hours, and immediately after death its leucocyte count had dropped to 1,100."

These are a few of the many experiments along the same lines by men of the highest standing and authority in our profession. Dr. Rubin also investigated the number of leucocytes in a series of confirmed inebriates, and he found the leucocyte count in these persons to average 5,300, instead of the normal count of 7,500. Dr. Rubin also found that the periodical drinkers in this list had 1,400 more leucocytes in their count than the steady drinkers. This explains the high mortality from pneumonia among drunkards.

Sixth, Bodily Temperature. Alcohol, in doses large enough to at all affect the system, always reduces the temperature. It does this in at least two ways: First, by acting as a vasodilator of the superficial capillaries and small blood vessels and letting a large volume of blood come near the surface where it is exposed to the cool external atmosphere. Second, by its depressing effect upon the nervous and vascular systems.

Seventh, Alcohol as a Food: Does it act in the capacity of a real food? In order to settle this question, it occurs to me much depends upon the meaning of the term food. I believe that Dr. W. H. Howell, professor of physiology in Johns Hopkins University, Baltimore, gives the best definition of food. He says: "By food is meant material which can be oxidized in the body, with the production of *usable* energy, but without injurious effects upon the tissues, and moreover a material whose consumption protects other foodstuffs—fats, carbohydrates, etc." No one denies that alcohol is oxidized in the body and produces some energy in the form of heat, but almost the entire scientific medical world admits that it produces injurious effects upon the tissues of the body and that these injurious effects overbalance its effect as a heat producer. So far as its ability to protect fats and carbohydrates is concerned, this is questionable; but admitting this to be true,

I submit the following statement from Dr. W. S. Hall, professor of Physiology, Medical Department, Northwestern University, Chicago. He says:

"When one eats a *real food*, it is assimilated largely by muscle tissues and is oxidized for the purpose of liberating the life energy. When one injects alcohol, it is carried by the blood to the tissues, mostly to the liver, where it is oxidized, as any toxine would be, for the purpose of making it harmless."

Professor Hall further says that the oxidation of alcohol liberates heat energy, but this energy cannot be used by the body even for the maintenance of body temperature. All agree that a real food is assimilated and used to build or repair body structure, or to be oxidized in the tissues to liberate the energy used by the tissue in its normal activity. We know alcohol oxidized in the body furnishes no energy to muscles or nerves, or brain. In this connection, hear Professor Hall again:

"The fact that alcohol is oxidized in the body has been generally misunderstood. The first impression naturally was: 'Foods are oxidized; alcohol is oxidized; therefore alcohol is a food.' But many difficulties appeared. A real food promotes muscular, glandular, and nerve activity, and its oxidation maintains body temperature. But alcohol *disturbs* muscular, glandular, and nervous activity, and its oxidation does *not* maintain body temperature.

"If alcohol is not a real food, what is the significance of its oxidation? It has been long known that the liver produces oxidases, and that it is the site of active oxidation of mid-products of katabolism, of toxins and of other toxic substances.

"Alcohol, usually formed as an excretion of the yeast plant, is also found as a mid-product of tissue katabolism. It belongs clearly, then, to the toxic substances mentioned above."

Dr. Reid Hunt and Dr. Beebe both agree with Professor Hall that alcohol is largely oxidized in the liver. It is carried rapidly from the alimentary canal to the liver and oxidized as other toxic substances are. In other words, it is a protective oxidation. For example, if there is so much alcohol carried to the liver that this organ is kept busy oxidizing the excess of alcohol, other toxic substances such as uric acid, xanthin bodies, leucin, tyrosin, and the amido acids, pass on through the liver and are carried by the blood to other organs of the body to do damage. Then again the liver is overtaxed, it cannot destroy other toxic

substances such as bacterial toxins in various diseases. We are told that one of the important functions of the liver is to destroy poisons and the various toxins which are harmful to the body.

Upon this question of alcohol as a food, Dr. Henry Smith Williams says: "It is even questionable whether the energy derived from the oxidation of alcohol in the body can be directly used at all as a source of muscular energy. Such competent observers as Schumburg and Schaeffler independently reached the conclusion that it cannot."

Upon the same subject, Dr. John J. Abel, of Johns Hopkins, says: "Alcohol is not a food in the sense in which fats and carbohydrates are food. It should be defined as an easily oxidizable drug with numerous untoward effects which inevitably appear when a certain minimum dose is exceeded."

I will close this part of the subject by the following recapitulation, as gleaned by Prof. Hall and one quotation from Chittenden: If alcohol is a real food, when injected as such, muscular power would be increased and the capacity of the brain and glandular system would likewise be increased and the body temperature would be maintained. That these conditions are not true has been proved over and over again in the laboratories and by clinical experience. Chittenden, the highest authority on foods and alcohol, has the following to say:

"It is quite misleading to attempt a classification or even a comparison of alcohol with carbohydrates and fats, since, unlike the latter, alcohol has a most disturbing effect upon the metabolism or oxidation of the purin compounds of our daily food. Alcohol, therefore, presents a dangerous side wholly wanting in carbohydrates and fats."

"It is claimed by some that alcohol is a food. If so it is a poisoned food."—Frederick Peterson, Columbia University Medical School.

Eighth, Therapeutic Uses. That there has been a most radical change in the opinion of our profession toward the therapeutic use of alcohol, both in this country and abroad, during the last few years, no one will at all question. Some fifty years ago an insurance company was organized in London, England, known as the Temperance Life Insurance Company, and some of the men who formed the first board of directors of the company had actually been refused insurance by other insurance companies because they were total abstainers, and only thirty years ago, when

the Temperance Hospital of London was founded, threats were made that if any deaths occurred in the institution in cases in which alcohol had not been used, a coronor's inquest would be demanded. It is remarkable to think of the attitude of physicians and the public of that day toward the subject of alcohol as a remedy. In those days, physicians thought that this drug was almost a panacea for all kinds of infectious fevers, and now it is the exception, and not the rule, when physicians depend upon such a therapeutic agent. And, a man can hardly secure insurance on his life if he drinks intoxicants at all constantly. I refer to these changes in sentiment in the uses of alcohol to show that the therapeutic value of the drug now rests upon an insecure basis. I have before me the names of twenty-five leading hospitals in this country, and as many more in Europe, and statements from the superintendents of each hospital to the effect that the use of alcohol in the treatment of disease has declined during the past ten years more than one-half. Some of the best hospitals have discarded the drug as a therapeutic agent entirely. May I call your especial attention to a report of the Massachusetts General Hospital, Boston, as an example:

1899—Cost of alcoholic liquors for patients..	\$3,002.00
1900—Cost of alcoholic liquors for patients..	2,400.00
1901—Cost of alcoholic liquors for patients..	1,786.00
1902—Cost of alcoholic liquors for patients..	1,404.00
1905—Cost of alcoholic liquors for patients..	445.00
1906—Cost of alcoholic liquors for patients..	738.00

Cook County Hospital, of Chicago, and Bellevue Hospital, of New York, spend from two to three cents only per capita for their patients annually. This small expenditure for alcoholics in these great institutions is good and convincing evidence that the physicians and surgeons practicing there have not much faith in the drug as a therapeutic agent. The fact that hospitals are leaving this drug and substituting other safer and more rational therapeutic agents needs no comment. In this connection I wish to quote what Dr. Alexander Lambert, of Bellevue Hospital, said at a meeting of the American Medical Association in 1909. In the course of some remarks which he made on the treatment of pneumonia, he said: "Eight years ago I became dissatisfied with the results of the treatment of pneumonia which I had been following, and in my division of Bellevue Hospital (there are four divisions) I gave up the use of alcohol and nitroglycerin and simply used those drugs by which we obtain a rise in blood

pressure. After three months when each division had from 125 to 137 patients each, I found that in those cases where alcohol and nitroglycerin had been used, the death rate was ten per cent higher than where drugs that raised the blood pressure had been used."

Conclusions: As alcohol is no real stimulant to the vascular system, or the nervous system, the sooner the public and physicians know this the better, for at least ninety-nine in one hundred of the laity think it is and use it in some form in all emergencies, such as faintings, shocks and accidents. H. C. Wood says, "I am perfectly sure that a large dose of alcohol in shock puts a nail in the coffin of the patient," and again he says, in speaking of the use of alcohol in cases of chloroform narcosis, "On several occasions alcohol apparently greatly increased the rapidity of the fall of arterial pressure and aided in extinguishing the pulse."

When physicians cease using alcohol in such emergencies and in the treatment of disease, and become actually hostile to its use, the public will be slow to continue it. Dr. J. H. McCormack, of Kentucky, whom many of us know personally, says: "It is time alcohol was banished from the medical armamentarium."

Dr. Todd, of London, England, and Dr. Austin Flint, of New York, and his contemporaries in their day created a sentiment in the minds of physicians in favor of the use of alcohol in the treatment of such diseases as pneumonia, typhoid fever, etc. Since their day, however, and fortunately for the public, I think, the use of the drug has been gradually declining for the following reasons:

First. In pneumonia because it interferes with the oxygen-bearing property of the red blood corpuscles. In this disease, the free absorption of oxygen is what the patient needs.

Second. Alcohol interferes with the natural processes of nutrition and waste. Any substance taken into the body which interferes with these processes of nutrition and waste is inimical to health and in time of disease dangerous to life. Alcohol has been indicted over and over again as such a substance.

Third. Alcohol causes weakening of the heart muscle. Many of the infectious diseases, typhoid fever, pneumonia, etc., have the same effect, consequently the patient's heart is compelled to endure a double strain—that caused by the disease and that caused by the drug.

Fourth. The activity of the liver in destroying toxins and poisonous substances is one of the physiological processes which stand between the patient and death. That alcohol hinders this process, no one will deny.

Fifth. All know the functions of the leucocytes of the body. Metchnikoff, Laitenan and others too numerous to mention, tell us even in the minutest doses alcohol depresses these cells so as to prevent them from attacking invading germs.

I may be pardoned in closing this paper with only a few quotations among the hundreds at my command from the leading physicians of the world, bearing upon the therapeutic uses of alcohol. J. H. Musser, M. D., of Philadelphia, Ex-President of the American Medical Association, says:

"The physician should have blazoned before him, 'If you can do no good, do no harm.' If this rule is adhered to, in ninety-nine cases out of one hundred the physician will give no alcohol. In the medical wards of the Pennsylvania Hospital I have found that in acute as well as chronic disease we can do without alcohol. It does harm rather than good. Alcohol masks the symptoms of disease, so that we cannot know the patient's real condition."

Prof. Frank Woodbury, of Philadelphia, says:

"In its relation to the human system, alcohol is never constructive, but always destructive."

Dr. T. A. McNicholl, of New York, says:

"Alcohol finds no place in my remedial list. It has been banished, not from sentiment, but from knowledge secured by scientific investigation."

A few years ago a committee of fifty men composed of pathologists, physiologists, chemists and clinicians was appointed for the purpose of investigating the effects of alcohol upon the human system. This committee was, to say the least, not in the smallest degree prejudiced against the use of alcohol. The following is the verdict of this committee, briefly summed up, which amounts to this:

"(1) Alcohol, even if it may be tolerated in small doses by healthy men for a considerable length of time, can not be shown to be capable of supplying any property of special or characteristic value.

"(2) Alcohol is a poison,—a deadly poison in large doses, and a slow, insidious poison in small doses.

"(3) Alcohol in all doses diminishes muscular vigor, nerve sensibility, and vital endurance.

"(4) Pure alcohol in large doses produces immediately and in marked degree a retarding effect upon the digestion, while in small doses its effect is such that it cannot be said to be in any respect an aid to the digestive process.

"(5) The seeming stimulating effect manifested in one direction is counteracted by an equally retarding effect in another direction. Beer and wine retard digestion in all appreciable doses, producing in this respect an effect even greater than whisky and stronger liquors."

The detailed facts in relation to the above may be read by anyone who desires, in "Physiological Aspects of the Liquor Problem," published by Houghton, Mifflin & Co., Boston and New York.

As the prevention of disease is the honorable and chief business of the medical profession, and in view of the fact that most physicians, and other people who have given careful attention to the medical uses of alcohol, are agreed that were alcohol banished from the list of therapeutic agents and from the community, the physician would not be handicapped in the least in the treatment of the sick and his patients would not suffer thereby, and in view of the known fact that from 25 per cent to 50 per cent of insanity in all countries is caused directly or indirectly by alcohol, and as the great majority of hepatic cirrhoses and arterioscleroses and Bright's disease are caused by this drug, would it not be the honest and manly thing for physicians to cease condoning the use of such a drug by the people as a tonic and stimulant, and as a galactogog, etc., when it has been proven to possess no such virtues?

DISCUSSION.

Dr. George E. Pettey (Memphis) — I am very glad to be present that I may give this paper my hearty indorsement. The therapeutic use of alcohol is a question we must deal with in the light of its now known effects. We are not at liberty to hold opinions which definite methods of research have shown to have no foundation in fact. Our opinions, our mere beliefs, must not be allowed to reject demonstrated truth.

Alcohol is now known to be a depressant in all its range of action and not a stimulant at any time. The apparent blush of stimulation

from its primary effects is due to its paralyzing action on the inhibitory nerves. It reduces inhibition and thus allows what latent energy there is in the system to express itself in a visible manner; but it does not impart, produce, or otherwise contribute that energy. The inhibitory effect allows the blood vessels of the surface of the body to dilate and this invites the blood to the surface, thus taking it away from the vital organs, the action of which it is supposed to energize. If shock is present the effects of alcohol always increase it; never otherwise. If the patient is in a condition to really need a stimulant, a supportive, and energizer, and alcohol is given, the need is made greater, not supplied. The apparent blush of stimulation, the quickened heart action, the more ample flow of blood through the surface blood vessels, is not due to any energizing effect alcohol has upon the cardiac or other motor centers, but to its paralyzing effect upon the inhibitory centers. Its effects allow the latent energy the system has in reserve to be more rapidly consumed. If danger is really present, it is increased; if the patient seems to be tided over an emergency, he would have more safely passed it without alcohol.

That it is a narcotic, a depressant, an anesthetic, has been demonstrated by the most exact methods. For instance, classes of young men, students, have been tested as to their normal capacity in hearing, sight, touch, and quickness and accuracy of perception, etc., until the normal capacity of each has been ascertained, then alcohol was given and the same tests applied to each. To test the sense of touch, a line of fabrics was used to be classified by touch alone. The ability of each student to correctly classify these fabrics was ascertained. Alcohol was then given and their ability to correctly classify them was found to be distinctly reduced.

The normal capacity to hear was ascertained by noting the distance the tick of a watch could be heard. Alcohol was given and it was found that the watch had to be brought considerably nearer to be heard.

The action and rapidity of action of the perceptive faculties were tested by flashing a series of cards on a canvas before the eyes and allowing them to remain in sight a few seconds, then flashing them down. The ability of each to recognize and recall the cards thus brought before their eyes was ascertained; then alcohol was given and the same test applied. The per cent of cards they could recognize so as to be able to recall

them was considerably reduced in every instance. In no case were the faculties so impressed as to enable them to do more rapid or accurate work under the effects of alcohol than without it. By these and many other experimental tests it has been demonstrated that alcohol always acts as an anesthetic, a paralyzer, a depressant, and not a stimulant.

Alcohol is not a food. It is contended that, because a certain per cent of alcohol is oxidized in the system, it is food. That would be true if the oxidized product was used to build up tissue, but it is not so used. It is oxidized to render it less harmful to the system, but the oxidized product is not used to repair or build up tissue. That alcohol does increase the weight of the body has been amply demonstrated, but it does this by reducing waste and allowing a fatty element to accumulate. It does not build up muscular tissue or add strength to the body. In wasting diseases, where it is desirable to reduce the waste to the lowest point, alcohol would seem to be indicated; but even in these the disadvantages attending its use are such as to minify if not entirely destroy its usefulness. The additional tax it puts on the kidneys together with the toxic condition it induces, does as much or more harm than its conserving effect does good. It certainly should never be thought of when a stimulant is needed.

I have not prescribed alcohol in any ailment for fifteen or more years, and I am quite sure that I have better results without it than with it, especially in my pneumonia and typhoid fever cases. In treating persons who have been free users of alcohol, and who are saturated with it, no matter what the ailment we are called upon to treat them for may be, I do not believe it is best or even safe to discontinue alcohol at once. The toxic condition of the system which it induces should first be overcome, then the alcohol reduced and withdrawn. To that extent I use it but not otherwise.

Dr. Walt—When contemplating the administration of remedies, we should consider their therapeutic effect carefully. Alcohol has met favor in every decade back to prehistoric days. It has been classed as a stimulant by all of our authorities that I have ever consulted. So far as definition is concerned in this classification, it is undoubtedly purely and simply a vasomotor dilator, and a vasomotor dilator cannot be a stimulant, *per se*. There is a natural law in which the chemical elements are formulated, and we find that

every toxic body, whether the venom of the snake or the sting of the wasp, has carbon for its basic element, whether in the CHNO or the CHO group. In the CHNO group there seems to be relative value of toxic relation between carbon and nitrogen. With one atom of nitrogen and five atoms of carbon you have a toxic body as a rule. Now, when we consider the effects of a drug upon organism, it should be individualized. We have something else in the circulation besides that which we put in it. Whisky in the first place being a vasomotor dilator, relieves the strain and induces the blood to flow to the point of least resistance.

A man who is in the habit of drinking finds relief simply because he relieves the pressure and distributes the blood more equally over the circulation; but individually the relative value of carbon in the CHO group makes this a toxic body.

I simply want to emphasize the fact that we should study this from a chemical point of view, as much as any other. So far as the physiological effect is concerned, you will realize that there are other chemical elements in the circulation at the time which must be given due consideration.

I think the chemist has made the way so plain from a scientific point of view that I would feel that my efforts had been badly directed if I were forced to give whisky as a medicine or food.

Dr. Dorr (Batesville)—In discussing the question of alcohol I think we should endeavor to arrive at some conclusion just how to proceed. We ought to seek to understand just how it acts, not only in regard to alcohol, but its relation to other stimulants. It is a question that does not get settled though discussed time and time again. I am free to admit that it is a very much mooted point. The question as to whether alcohol is a stimulant is a very interesting one. I think there are other stimulants that would take its place. As to the effect of the stimulation and the use of stimulants, it would be the same in all of them. Now, you may take for instance, anesthetics where profound shock comes on. I don't think you would get any action from any medicinal stimulant, as the circulation is practically stopped. Therefore it would be necessary to bring about reaction by some artificial means, before your stimulant could act. If the circulation does not start in a few minutes your patient is dead. Artificial means is all you can depend on for quick action, such as artificial respiration, dilating

the sphincter ani, pulling out the tongue, direct transfusion in a vein, artificial heat and position.

I use whisky sometimes for its analgesic effect, in endeavoring to relieve a patient with a facial neuralgia. It will stop it in a great many cases. Whether it is a stimulant or depressant it may serve a good purpose occasionally; at least it has the power of regenerating a nerve when injected into it. This should teach us that it is a very dangerous remedy.

Dr. Merrifield—With respect to the indiscriminate use of alcohol, I think it is a very vital question, and one that I am truly glad to see the scientific world coming out on the points which the doctor so admirably brought out in his paper. I really think that we have been sleeping in a sort of narcosis for lo! these many years.

In regard to the real chemical and physiological effect of alcohol, I desire to say that I do not quite concur in the doctor's essay in every letter, so far as he has read. Now, I think in those conditions which favor whiskey and alcohol they are highly necessary from a practical as well as scientific point of view. In the first place, it is chemically allied in its action in every respect to chloroform, ether and all anesthetics. In the second place, it increases the lumen of the vascular system and lets the blood flow to the surface, and, to my mind, it is entirely misleading to say that it has a paralyzing effect. It relieves by pulsation. It dilates the vasomotor system, which regulates the amount of blood allowed in the lumen of the vessels. Hence, there is scarcely any constriction of the blood in the blood vessels, but it is allowed to flow from there and rise through capillary radiation and freely flow to the surface. That means, if you please, stimulation by paralysis, which is absurd. Let us take the clinical view of the matter for a scientific setting. One of the doctors stated that the text-books give authority for these things. You will never see another *materia medica* give authority for that statement, because, according to my mind, the scientific world is waking up.

Let us see the clinical features. The first effect of alcohol in regard to the pulse is to accelerate it. This is due to the blood rising to higher centers, hence the necessary paralysis for the time being. The next clinical feature that you see, this same fellow, as this is carried on further, you will note the locomotor effect. You see that he is coming out. He will stir and then stare at you in an un-

certain way before you realize that he is coming out. Paralysis can add to the locomotor derangement, at least when it has occurred. I think simply the truth is that he is profoundly anesthetized. He will do things then and you will tell him about them next day; he will swear he never did them. We have absolute unconsciousness, even to the extent that minor operations may be performed without any sensation.

I am taking the ground that chloroform is simply an anesthetic, as evidenced by the old ACE Mixture. Anything that might be said of that might be repeated as regards alcohol, as to the features that might appear up to one point in the operation. There is only one thing that could be brought forward to controvert this. During a condition of shock it might act as a stimulant secondary, as atropin, morphin, and might act as a stimulant when the heart is affected by spasmodic contraction, and then alcohol might check paralysis and allow the blood to flow to the surface, and consequently be classed as a stimulant; otherwise, I cannot see the appropriateness of this definition.

Dr. Dibrell—I very much approve the administration of alcohol when indicated. Under proper limitations and intelligent discrimination, I think it is a remedy of merit. Dr. Witt has dealt it a severe blow right from the shoulder. Probably it is a matter of sentiment with him. In reality, I am a prohibitionist, if prohibition would prohibit; but I don't believe in this wholesale denunciation of a remedy which has been so frequently tried and has not been found wanting. There are certain conditions in which it is positively indicated. I do not believe that you can substitute strychnin for alcohol, nor can you abolish the use of alcohol simply because men become extreme in the advocacy of a cause, which they believe to be right, and suffer their prejudices to run away with their better judgment.

Because a remedy is abused in incompetent hands is not a good reason for condemning its use when it is needed as a medicine. Now, I don't think it is proper nor do I believe that you or I have any right to declare that its administration is a crime and a sin, and obliterate it from our stock in trade, because it is used as a beverage.

As a food it has caloric value evidently.

I don't believe in condemning it as a stimulant. I think it depends a great deal on the patient.

I very seldom prescribe it. I do not give it in the treatment of pneumonia. In my practice I have seen many instances in which I was thoroughly convinced that alcohol was distinctively of value as a therapeutic agent, and I don't believe that it should be thrown away because of opposition to it on moral grounds.

Dr. Warren (Black Rock)—I was going to set forth the argument that alcohol is recognized as having therapeutic value as a food. That it does more harm than good I grant you. I seldom use it. I coincide with Dr. Dibrell's contention that it is a remedy of value and a therapeutic agent recognized by the authorities.

I have examined to some extent the different authorities, and especially the result of German investigation along these lines, and I must say that they have demonstrated to my mind beyond question of doubt that it is a food. That you can use it and retain the same body weight by withdrawing all the fats supplied, and instead of keeping up the same amount of food in which fat is the largest factor that can be properly digested, use alcohol as a substitute, giving no fats at all, and the subject will retain the same amount of physical fat. Strassman has shown that, and experiments by Neumann, Atwater and Benedict; also those of Bosemann and his pupils confirm this.

Bartholow says alcohol increases blood supply, facilitates digestion, increases the action of the heart and all the functions of the body, for the time being, are more energetically performed. It is especially serviceable in gastric atony of old people and in slow convalescence of acute diseases.

Culbreth declares alcohol in its various forms is a stimulant, then depressant, diuretic; stimulates heart muscle, causing rapid and strong beats; stimulates the brain, assisting cerebration.

Other common and convincing experiments are those made on animals. The effect on their organism has warranted the assertion that they increase in weight more rapidly; take on more fat than those that have not been given alcohol.

These experiments and results have been verified by German investigation of recent years.

If you are going to condemn the remedy, there is no remedy in our armamentarium that might not do harm in certain conditions. I admit that you might throw any of them

overboard, or very many of them, at least, and get along without them. We may get along without whisky or beer. Shall we do that when at times in our practice they are indicated? My experience of fifteen years has proven to me beyond question that alcoholic remedies have been a fruitful source of trouble, but at certain times alcohol has proven as efficacious as any other known remedy which we have at our command. Numerous instances could be cited bearing out this conclusion. As I said before, I rarely ever use it as a therapeutic agent, and if we could discard it altogether, I have no hesitancy in saying I believe it would be a boon to humanity; but if we are going to discard it, we should be very careful how we take the advice of enthusiasts, who are governed largely by preconceived ideas or notions, and are committed to certain measures.

According to my observation, there is more prejudice, more fanaticism and more antagonism to it than any other known remedy. If we will disregard prejudice and fanaticism we are better able to do justice and I think are forced to say alcohol is a valuable therapeutic agent. Wherever we have gone into it with the view of doing good, we have always come to a class that have used this agent repeatedly and have derived apparent relief and have come to regard it as beneficial to humanity, and I do not mean dram drinkers. In these case I have observed psychological benefit in many instances. This, however, is not proving its therapeutic value.

Dr. A. M. Hathcock (Harrison)—I look upon alcoholic liquors as I do all other poisons, such as strychnin, arsenic, cocain, etc. We know that all poisons do more harm than good when used without proper discrimination, and I am fully convinced from personal observation the use of alcohol has done more harm than it has ever done good. I seldom use it in my cases, but would not be willing to discard it in all cases. I have practiced thirty-two years, and have used alcohol in some form whenever I thought it would be beneficial, and I believe it acts temporarily beneficially in certain conditions,—thus, carrying the patient over until nature can promote recovery. I do not pretend that whisky saves life, but it does seem to do good in certain cases.

Dr. Witt—I wish to thank the gentlemen for the discussion of my paper. It seems that Drs. Warren and Dibrell are mentally troubled about the danger of alcohol being thrown “overboard” or “banished” as a therapeutic

remedy, and yet, Dr. Warren says “My experience of fifteen years has proven to me beyond question that alcoholic remedies have been a *fruitful source* of trouble.” I doubt not the truthfulness of this statement.

Again Dr. Warren says: “I rarely ever use alcohol as a therapeutic agent, and if we could discard it altogether I have no hesitancy in saying I believe it would be a boon to humanity.” This deliberate statement sounds extremely “sentimental,” and has symptoms of an “enthusiastic fanatic.” In the very first sentences of his discussion of the paper he makes this startling statement: As a food, he says, “that it does more harm than good, I grant you.” This is one of the strong points I tried to make in discussing alcohol as a food. A real food does not do more harm than good. So my contention is sustained, even by Dr. Warren. We must keep in mind that a real food furnishes heat and energy to the tissues of the body, and maintains body temperature. It has been clearly demonstrated by a host of the best authorities both in America and abroad, that alcohol oxidized in the body furnishes no energy to muscle, nerves or brain, and does not maintain body temperature. I am surprised to hear Dr. Dibrell say he would be a prohibitionist if prohibition would prohibit. If he really is against prohibition because it does not prohibit, then consistency would force him to line up against our prohibitory murder law, and other such laws, because in many instances these laws do not prohibit, as he well knows. Just why the doctor injected *prohibition* into this discussion I do not know. I confined my remarks absolutely to the medical side of the question, and I had no thought of anyone discussing the subject except from the same viewpoint.

The doctor says he does not give an alcoholic to his pneumonia patients. He did not tell us why. We all know how necessary cardiac stimulants are in certain stages and conditions of this disease. When the right heart is about to fail our patient may often be saved by prompt stimulation of this vital organ. If alcohol is a vascular stimulant, as the doctor intimates so strongly, why don't he use this drug in pneumonia when a stimulant is indicated? Dr. Dibrell says he don't believe in the “wholesale denunciation of a remedy which has been weighed in the balance and has not been found wanting.”

I unhesitatingly make the statement without fear of successful contradiction that this drug as a therapeutic agent has been weighed in the balance and found wanting. Only a

few years ago nearly the entire medical profession was using alcoholics in the treatment of acute infectious diseases, as well as chronic diseases, and today the use of this drug is the exception and not the rule.

The Massachusetts General Hospital, Boston, paid more than \$3,000.00 during the year 1899 for alcoholics for patients, and in 1905, six years later, this institution paid \$445.00 for alcoholics for patients. For some sane reason the physicians who treat patients in this great hospital have discarded alcohol to a great extent, and no one has ever accused them of being "prejudiced," "fanatics," or "enthusiasts," against the drug on account of "prohibition sentiments." The gentlemen who have criticised the paper tell us alcohol should be administered when it is indicated, but they fail to describe a condition for which it is indicated. That alcohol increases the velocity of the blood currents no one has ever denied, and it does it in the same way the nitrites increase the velocity—that is, by dilating the peripheral arterioles and capillaries, thus removing the natural resistance in the superficial blood vessels and thereby letting the blood travel faster without the heart being stimulated. The nitrites are not vascular stimulants. My contention in discussing this phase of the subject is that alcohol is not a *real stimulant* to the heart or blood vessels. I don't believe a physician who administers this drug as a heart stimulant is guilty of a "sin" or a "crime," but I am of the opinion when he attempts to strengthen a weary heart with alcohol he will fail.

THE INTRAMUSCULAR INJECTION OF MERCURY, WITH SPECIAL REFERENCE TO THE IN- SOLUBLE PREPARATIONS.*

Eugene Carson Hay, M. D., Hot Springs.

The deep intramuscular injections of mercury continue to grow in favor as a very effective and popular method of administering mercury, and is far superior in promoting the ultimate cure of syphilis and bringing the disease under rapid control than when administering it by the mouth.

As to the comparative value of the soluble and insoluble preparations, I will briefly state

that the insoluble are so much more effective, less painful (except calomel), less prone to produce nodicities, and so much more lasting in their effects than the soluble salts that their therapeutic values are not to be compared. For a number of years I used the soluble preparations exclusively when giving injections, and during that period employed in my professional work nine different soluble salts of mercury, as follows: Albuminate, bichlorid, succiminide, benzoate, cyanid and oxyceinate. They all proved painful to a more or less degree. In some the pain following the injection was so severe that the patient refused to continue this method of treatment; in others the pain was moderate; in a few it was painless. The difference is because some patients are so much more susceptible to pain produced by injections of mercury than others; rather an idiosyncrasy, so to speak.

Five years ago I commenced the use of the insoluble preparations. For one year I used the salicylate of mercury in emulsion of liquid abolin 10 per cent solution. The results obtained from this preparation were excellent, but some patients objected considerably to the pain it produced. I then adopted the grey oil, a modification of Lang's formula as submitted to me by Dr. Heidingsfeldt. This preparation proved, in my hands, less painful than the salicylate, only producing a moderate soreness in the hips after the first few injections, and equally as powerful—in fact, more so—in its action on luetic manifestations, and the volume of the dose considerably smaller; the dose being from one to three minims, in which is incorporated approximately 50 per cent mercury; whereas, the dose of the salicylate is from ten to fifteen minims, representing from a grain to a grain and a half of the salicylate of mercury. The reduction in the volume of the injection, I think, is one of the most important factors in rendering the injection less painful and not so prone to produce nodicities or an oil embolus.

The insoluble preparations have been used very little in this country. They were used for years, with very few exceptions, exclusively on the continent of Europe. During the last decade they have grown more in favor in England by their adoption for the treatment of syphilis by the surgeons of the British army. Klotz, in this country, has for many years been an advocate of injections of calomel; and Pedersen, Fuller, and Gootheil have by their writings encouraged the use and

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

popularized the salicylate of mercury mixture. Since Col. Lambkin wrote the chapter on the treatment of syphilis in the new "System of Syphilis," Vol. 2; and Burroughs, Wellcome & Co., have put his preparation of mercurial cream upon the market, the grey oil seems to be growing in favor. The Heidingsfeldt formula for grey oil is as follows:

Double-distilled metallic mercury, 1 oz.

Lanolin, not sterilized, 1 oz.

Dose, 1 to 3 minims.

The lanolin must not be sterilized. This is an important point which I will refer to later.

Lang's latest formula of his original oleum cinereum, or grey oil, consists of:

Metallic mercury, 2 parts.

Sterilized anhydrous lanolin, 1 part.

Sterilized liquid paraffin, 1 part.

Fifty per cent of mercury; dose, $\frac{2}{3}$ grain.

Lafay's formula:

Metallic mercury, 40 parts.

Sterilized anhydrous lanolin, 12 parts.

Sterilized white vaseline, 13 parts.

Sterilized oil of vaseline, 35 parts.

Forty per cent of mercury; dose 1 to 2 grains of mercury. (*Italics mine.*)

The formula for English cream as used in the British army is:

Pure metallic mercury, 1 oz.

Anhydrous lanolin, 4 ozs.

Liquid paraffin carbol., 2 per cent, 10 ozs.

By volume 10 per cent mercury; dose 10 to 15 grains.

As stated by Col. Lambkin, this is the cream that has been used throughout the British army for the last seven years, and one that he and other English writers admit is very painful.

Lang and Lafay's formulas have both proven very painful in my hands. You will observe in Lang and Lafay's formulas they designate *sterilized* lanolin, and here is the source from which most all the pain emanates. If the lanolin is sterilized you cause a disassociation of more of the fat acids, possibly oleic and steric acid, and this sterilization process, I have concluded from clinical experience, is the chief reason which renders the injection so painful. This fact was called to my attention by Heidingsfeldt and is the reason why I adopted his formula. You must depend on the mercury to render the oil sterile. I used this formula up to one year ago, had very few patients object to it on account of pain, but occasionally some would complain that it made their

hips quite sore, and in two cases I had abscesses.

In reading Col. Lambkin's article I was favorably impressed with his statement in regard to his new formula for mercurial cream, which he stated rendered the injection "absolutely painless" not only injections of metallic mercury, but of calomel as well. The formula is as follows:

Pure metallic mercury, 10 grams.

Camphoric acid and pure creosote of equal parts, 20 c.c.

Palmitin, 100 c.c.

Dose 10 minims, containing 1 grain of mercury.

The camphoric acid and creosote were added not only for the analgesic effect, but as creosote possesses double the bactericidal effect of pure carbolic acid when tested by the Rideal-Walker process, it thus renders the oil more sterile. Palmitin is a neutral fat derived from palm oil having the same chemical composition as palmitin of the human system. Time will not permit me to discuss all the points of advantage he claimed for this formula. Suffice to say that from his statements I was induced to give it a trial, as he claimed it was painless and had never produced nodicities or any abscesses in his hands. I gave two injections of his cream, prepared by an English firm in London, and as a result I produced two large, beautiful, and very painful nodicities on two different patients, which required ten days for them to subside, to the great discomfort of my patients, as they suffered considerably. It then occurred to me to take what I considered the good elements in Lambkin's cream and combine them with the Heidingsfeldt oil; as a result I devised the following formula:

Double distilled metallic mercury, 1 oz.

Pure lanolin, *not sterilized*, 1 oz.

Pure beechwood creosote, $1\frac{1}{2}$ drams.

Camphoric acid, $1\frac{1}{2}$ drams.

Dose, 1 to 3 minims.

This formula it appeared to me would be an improvement, as the creocamphor mixture would serve the double purpose of rendering the oil more sterile and also act as a local anesthetic. The result was most gratifying and made a great improvement, so much so that after using it now about one year with my associate, Dr. W. O. Forbes, we have given over 1,000 injections, and have not had an abscess and in only one case a nodicity. Very rarely have I had a patient to complain of pain, and in these cases, not once have I

had to interrupt treatment on this account, as the soreness only lasted a few days after the first two or three injections. I notice, though, during the warm summer months, the oil has a tendency to separate, the creocamphor mixture rising as a scum to the top of the jar or in the syringe when lying down for some hours. This would immediately go into solution again on stirring, but required the necessity of reloading the syringe most every time it was used. I overcame this defect by adding one dram of glycerine, and at last succeeded in securing a very stable oil. My latest formula as I now use is as follows:

Double distilled metallic mercury, 1 oz.

Pure lanolin, *not sterilized*, 1 oz.

Camprohic acid, $1\frac{1}{2}$ drams.

Pure beechwood creosote, $1\frac{1}{2}$ drams.

Glycerine, 1 dram.

Containing 40 per cent mercury by weight.

This makes sufficiently near the 50 per cent preparation to answer all clinical purposes. The dose is from one to three minims. The minimum dose twice a week or the larger dose once a week.

The technic for success in the administration of grey oil injections are very important. As I have covered this point in a previous article, will enumerate only a few of the most important. First. Absolute cleanliness in all proceedings of the operation. Second. The needle should be sufficiently long to deposit the mercury well down into the muscles. Third. Allow your needle, after insertion, to remain at rest sufficiently long in the tissues before withdrawal so that no mercury will follow its tract into the fat or subcutaneous tissue. In preparing the hip for the injection I wash the surface with a solution composed of equal parts of wood alcohol, ether, and saturated solution of boric acid. After withdrawing the needle the puncture is sealed with collodium. These little spots of collodium remain on for several days and will be present to remind you, on the occasion of your patient's next visit, which hip you injected last.

The syringe I now use is one made after the pattern of an ordinary hypodermic syringe, with some improvements for this special work. It is made a little heavier and more substantial and has an extra heavy finger grip. The needles are made of No. 21 gauge, with a shaft ranging from one and a quarter to two inches in length. The dose can be regulated and accurately measured by the screw shoulder on the piston rod. These specially constructed syringes were devised by

the Max Woche & Sons Co., Cincinnati, Ohio. In very fleshy people you should use the extra length needle. The needle should never be inserted with one thrust, as you are very liable to bend or break it by such a procedure. The skin is the only part of the tissues hard to penetrate, hence the first thrust should be through the skin, and then press it in gently its whole length. The part of the hip you wish to inject should be pinched up between the thumb and index finger when inserting the needle and this will render its introduction painless. This syringe will not stand boiling, as moist heat shrinks and hardens the leather plunger. I sterilize them by dry heat. The needle, of course, can be boiled. After the syringe is loaded the needle is attached and never removed again only when desiring to refill the syringe. As it is a thirty minim syringe one charge will be sufficient for fifteen or twenty injections. This is a great advantage and convenience when giving several injections a day, as when using the other insoluble preparations, with most of them the syringe has to be refilled for every patient. This occupies considerable time and is no little trouble.

The only precaution necessary after giving the injections is to wash the needle under the hot water spigot and wipe it off with a piece of sterilized gauze saturated with alcohol. It is then best to lay it aside in a clean case wrapped in sterilized gauze. When desiring to use again, I go through the same process; that is, the hot water immersion and wiping the needle again with alcohol. As the syringe was made sterile originally with dry heat, the mercurial oil will keep it so. The thought may occur to one that possibly some alloy may form from the mercury coming in contact with the metal parts of the syringe and needle. If any chemical change of this character really occurs, it does not interfere with the physiological action of the mercury, or cause it to be irritating to the tissues. In proof of this assertion: I had a syringe that was filled and lay in my case for one year before it was used. When I put it into commission I did not notice any difference in the injections from this syringe than a freshly filled one.

The intramuscular injections of mercury, both the soluble and insoluble, have been criticised and attacked very severely by some of our greatest syphilographers. Hutchinson's latest work that is fresh from the press, condemns injections of mercury, especially the insoluble preparations. As for my position,

I repeat what I said in a previous article, that I greatly prefer the inunctions of mercury for routine work to all other methods. The soluble injections have grown into disfavor with me from my experience of several years in their administration, and I now rarely use them; but some results obtained from the use of the insoluble have been so gratifying that I consider them a very valuable and potent therapeutic agent and a method of administering mercury that I would be very reluctant to discard entirely. In some cases, if I may be permitted to use the word, their action has been almost magical. I have seen cases where all other methods have failed, respond to grey oil injections. I wish to emphasize, though, that when giving grey oil or any other form of insoluble mercurial injections, a physician should be ever conscious that he is dealing with a very powerful and toxic remedy and should use discretion in the selection of his cases.

A great many deaths have been reported by European writers resulting from the injection of calomel, grey oil and salicylate of mercury. Calomel, it seems, is the most dangerous, grey oil next, and the salicylate the least toxic. But if proper caution and care had been exercised in the selection of the cases and smaller doses given, I do not believe so many accidents would have occurred. I prefer small doses more frequently repeated than large ones at greater intervals, then there is less danger of mercurial poisoning from the rapid absorption of a large or overdose of mercury.

I reserve the injections of grey oil for cases that do not respond to inunctions, for cases of active syphilis of the nervous system, for a gummatous manifestation in any location, for tertiary involvement of the bone or lymphatics, for cases that have resisted all other forms of specific treatment, including leucoplasia of the tongue, and those stubborn, precocious cases that continue manifesting recurrent accidents in spite of all other methods of treatment that have been previously pursued, they will generally respond to the grey oil injections; for cases where on account of domestic or social relations concealment is essential, and for cases that require a very rapid or intense mercurialization, especially those involving the nervous system. As I spoke above, time is a very important factor in these cases, as our aim should be to promote rapid absorption of the syphilitic exudate before destruction of the nerve cells occurs.

In some very stubborn cases I have used injections supplementary to inunctions, giving one or two injections a week during their course of rubbings. This treatment in a moderate degree is approaching the method used in France, as they do in some cases when desiring rapid and intense mercurialization, give simultaneously mercury by the mouth, by injections, and per rectum; but this I consider carrying specific medication to the extreme. In quite a large number of cases I have had some very excellent results with the combined method. As an illustration of this will recite briefly the history of a case that is under my care now. A gentleman with an old luetic infection has had four attacks of iritis during the last fourteen months in spite of systematic courses of inunctions and soluble injections. At no time had he shown any toxic symptoms from the administration of mercury or any evidence of mercurial stomatitis. When he came under my care I placed him on inunctions but he soon manifested symptoms of recurrent iritis. That he was absorbing mercury I proved by detecting the presence of mercury in his urine, with the copper coil test, but it evidently was not being absorbed in sufficient quantity. Two injections a week were commenced and the inunctions continued. The eyes immediately cleared up, his general health showed evidence of great improvement by gaining of weight and strength, and he is feeling better in every way.

Leucoplasia of the tongue is a condition classified by Fournier as parasymphilitic. I have treated two cases of this character within the last year with injections of grey oil and they were very much benefited. This is the only form of specific treatment I have ever seen make an impression on this morbid process. Another case illustrative of the excellent results obtained from the grey oil injections is as follows: About ten months ago I was consulted by a man who exhibited a large periosteal tumor, which occupied an entire third of the anterior surface of the right tibia. It was very hard, tender to the touch and extremely painful, especially at night. He had six months previously completed a course of thirty injections of bichlorate of mercury. When he consulted me he had just finished two hundred inunctions of mercury, rubbing one-fourth ounce of 50 per cent ointment at each application. An examination of his urine showed that he was not absorbing mercury by the inunction method. After four injections of grey oil he had relief from pain, and

twenty injections caused the disappearance of the periostosis.

Before closing I wish to say a few words of precaution in relation to stomatitis, produced from the grey oil injections. Great care must be taken of the teeth. They should be thoroughly cleaned by a competent dentist before instituting a course of injections. The patient should then call on the dentist at least two or three times a week and have them closely inspected, all crevices washed out with a dental syringe containing some good antiseptic solution, and any slight irritation should be touched up locally with iodine and carbolic acid mixtures or nitrate of silver. One of my favorite formulas as a stock mixture for office use to apply to inflamed gums and mucous patches with an applicator is:

Acid carbol, one dram.

Chloral hydrate, one dram.

Tinct. myrrh.

Tinct. iodine.

Tinct. benzoine Co. aa. q. s., two ounces.

In addition, they should use freely some good mouth wash and cleanse the teeth every morning with a tooth paste containing chlorate of potassium. The use of tobacco should be prohibited or regulated. With these careful details followed out in the toilet of the mouth, their gums will generally be kept in an excellent condition, then if evidence of saturation does occur, at the very first symptoms the injections should be discontinued, as you must remember there is still quite a storage of mercury left in the hips for absorption.

Since writing my last article, I had one case in which the gums became mercurialized two months after the course of injections, and one very severe case of stomatitis, three months after the course of injections was finished.

Mr. George Parnet, in an article read in a symposium on syphilis before the American Medical Association at its last meeting, reported a very interesting and instructive case that occurred in a French hospital.

"A woman, aged thirty-eight, admitted on March 22, 1906, under Menetrier and Bouchaud, developed a severe stomatitis of five weeks' duration five months after the injection of calomel. The teeth were in very bad condition. The patient was discharged, improved, on April 1; returned on April 12 with a fresh outbreak of the stomatitis, when a nodule in the right buttock was discovered. It appeared she had had an injection in the left buttock, March, 1905, followed eight days later by an abscess, which was opened, leaving a scar. A second injection was made into the right but-

tock in October, 1905, leaving present nodule or infiltration, which was excised. The urine did not reveal any albumin, but mercury was found in it.

"In this case the injection had been made in subcutaneous fat and not into the actual muscle as it should have been. This is an important point, and it is necessary in fat patients that a needle of sufficient length should be used to insure reaching the muscle."

As Col. Lambkin says in regard to the injection of grey oil, and of course, this holds good for other insoluble preparations, "Its one disadvantage is that should salivation take place after injection, it is a difficult matter to prevent the symptoms getting worse unless the mercury is removed. This has been done by excision, but the operation to effect this is as difficult as it is serious."

DISCUSSION.

Dr. Warren (Black Rock)—Dr. Hay specializes one treatment. He said nothing that I heard about the internal administration of mercury. I presume from his paper that he does not give mercury internally. I would like for him to bring that out in closing. It seems to me that would be the most natural method, especially in the country districts, where we cannot see our patients regularly, or where physicians are not so conveniently situated for treating patients as Dr. Hay is. I would like elucidation on that point.

Dr. Hay—I will say that this paper relates entirely to the intramuscular treatment. I expressed myself on that before. I do not believe in giving it internally at all, if the syphilis is active. That is where the mistake of the general practitioner comes in, I think. He says they do not see them regularly; they should see them often. If you see your patient once a week, give him a treatment by injection, which is usually sufficient, and you have got him pretty well under your observation. He must come to see you at least once a week. You can impress him with the fact that the elimination will progress more rapidly if he will rely implicitly on your judgment and execute your instructions with conscientious exactness.

Today we all claim that the internal administration of mercury is antiquated, and it is largely responsible for the dangerous sequelæ of syphilis. Men come into Hot Springs with all the latent nerve lesions of an old syphilis. They say they have been taking pill treatment a long time. Now, my rule is to give mercury internally when the disease

is inactive. In other words, when a man is apparently clinically free from any symptoms of syphilis. The important period in which to get good results in the treatment of syphilis is during the first year, when the whole system is being filled with organisms. If you give him pill treatment during that time the result is bad. This is verified every day by the people who come to Hot Springs with all the sequelæ of pill treatment. They have been taking the pills probably for four, five or six months. The result is that even their gums are inflamed from supersaturation. There is nothing which will affect the gums more quickly or seriously than the internal administration of mercury. There is nothing that will injure the gums as much as the mercury used internally. If your treatment was sufficiently powerful to kill the spirochæte pallida, you impair the digestion, injure the stomach and are liable to bring on salivation. Any treatment that allows the syphilis to go on developing in this way ought to be regarded as antiquated. The only procedure to be regarded seriously to secure the best results is the intramuscular treatment. That is our stock in trade over there at Hot Springs—the ideal treatment of stored mercury. There are only three conditions in the secondary stage where pill treatment is indicated, and then only in connection with the giving of KI to dispose of the injured organisms. Why? Because it is a depressant, therefore it is depressing to the nervous system and irritating to the intestines.

As I said before, there are only three conditions in secondary syphilis in which iodid of potash given internally will do good and is axiomatic. One is syphilitic headache. It occurs mostly in the mornings—usually commences about two or three o'clock. Patient complains of sharp pains in the armpit, through the shoulder or arm. Frequently the headache is complicated with the other characteristic lesions. If you will give the KI with mercury, it will disappear, generally within a week's time. Continue your KI for

a week or ten days, then stop it. The main thing you want to look after is the nutrition of your patient. You will never build up the nutrition of your patient while he is taking KI. It will not increase the weight. I never saw one of them thrive on it. The only patients I have ever seen are some old tertiaries, who come in with pronounced syphilitic infection, reopened ulcer or broken down parts of gumma. If you put these cases on KI or mixed treatment of KI, mercury and sarsaparilla for a while, and look after their diet, they will fatten up like hogs in a pasture living on acorns, increasing in weight right along.

After I have finished my injections, 75 per cent of them, I put him on inunctions again, and inside of ten days he will be perfectly clean, and inside of three weeks won't have an eruption left upon him. Let him have a rest period, then put him on his pills again, if he has not had a recurrence. Let him take pills as long as there are no active manifestations of syphilis. This treatment should not be pursued too long, however. After he has taken pills for two or three months, better continue with another course of inunctions. Men who have syphilis should be put through two or three courses of inunctions a year, and in between them the pill treatment. Any man who relies upon the pill treatment alone for the cure of syphilis will be disappointed. Only a small percentage of them will ever get well. That's my idea of it. I am prejudiced against pills. Over 90 per cent of those over at Hot Springs, and those at other hot springs (I am told there are over a thousand throughout the United States) have been taking pills from three to six months, and are all broken down with secondary syphilis. These come to Hot Springs and try our method of combating the disease, and they say that Hot Springs is the greatest place anywhere—the best on the face of the earth. The reason is because they get well there on inunctions of mercury within two or three weeks—apparently well.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

The American Association of Medical Examiners at their annual meeting in St. Louis, June 4, 5, 6 and 7, endorsed the movement for the establishment of a national department of public health, and elected the following officers: Dr. Liston H. Montgomery, of Chicago, president; Dr. Edward G. Grant, of Louisville, and Dr. W. T. Sulley, of Muskogee, Okla., vice presidents; Dr. A. E. Cox, of Helena, Ark., secretary; Dr. F. A. Stevens, of Caney, Kan., treasurer.

SUPREME COURT HOLDS THAT MEDICAL BOARDS HAVE POWER TO REVOKE LICENSE,

That the state boards of medical examiners have authority to revoke a license to practice medicine in Arkansas in any case where they find the practitioner has publicly advertised special ability to treat or to cure chronic and incurable diseases was the opinion of the Ar-

kansas Supreme Court in an opinion handed down June 23. The opinion was rendered in the case of the State Medical Board against Dr. A. S. McCrary, of Little Rock, and reversed the decision of Chancellor J. E. Martineau of this circuit.

The last legislature enacted a new law which provided, among other things, that the State Board of Medical Examiners should have the power to revoke licenses to practice medicine in this state for "publicly advertising special ability to treat or cure chronic and incurable diseases."

Dr. McCrary's case was the test of that part of the new law. He was cited to appear before the State Board of the Arkansas Medical Society in Little Rock on November 10, 1909, and show cause why his certificate to practice medicine in Arkansas should not be revoked under that section of the new law. On the day named Dr. McCrary sought and obtained a restraining order from Chancellor Martineau, enjoining the board from interfering with the doctor's right to practice medicine in Arkansas under the section referred to. In passing on the new law the chancellor held that that section of the law was too indefinite and uncertain for enforcement. The state board then appealed to the Supreme Court.

Before the Supreme Court Dr. McCrary contended that his right to practice medicine is a property right, the revocation of which would be the exercise of judicial power which could only be vested in the courts, and claim in that to assume to vest this power in the state board would deprive him of his property without due process of law, which it was set forth, would be a violation of the constitution. In this matter the Arkansas Supreme Court followed the decision upon the same contention by the Minnesota Supreme Court, and Justice Hart in his opinion held that "the revocation of a physician's right to practice medicine is not necessarily an exercise of judicial power, but that it is an exercise of the police power of the State and that due process of law has been had when such powers of government as the settled rules of law permit (such as the police power) have been exercised under the safeguards provided by the law."

Relative to the contention that the terms "chronic and incurable diseases" are too indefinite and uncertain for enforcement, the court holds that the terms are not variable, but have a settled and generally accepted meaning.

"Such diseases are specifically named and discussed in standard medical works, and are

known to all physicians who may possess a sufficient knowledge of their profession to practice the art of healing," says the opinion. "The consultation of such books would therefore be proper for the purpose of refreshing the memories of the members of the board in passing upon the case."

In conclusion, the court holds that the decree of the lower court should be reversed and the complaint dismissed for want of equity.

OKLAHOMA NO LONGER RECIPROCATES.

The New York Medical Journal states that after July 12 all persons desiring to enter into the practice of medicine in Oklahoma must first pass the State Board of Medical Examiners.

REORGANIZATION OF THE AMERICAN MEDICAL COLLEGE OF ST. LOUIS.

Believing that the time for sectarianism in medicine has passed, the trustees of the American Medical College of St. Louis, at a meeting held on June 6, 1910, unanimously decided that, in the future, the American Medical College shall be conducted as a *regular* college of medicine.

New officers were elected as follows: James Moores Ball, M. D., dean; J. J. Link, M. D., treasurer; and W. T. Burdick, M. D., secretary.

The thirty-eighth annual session will open on September 5, 1910, and continue for nine months.

LIBEL SUIT AGAINST CARNEGIE FOUNDATION.

The St. Louis College of Physicians and Surgeons has filed suit for \$100,000.00 against Mr. Abraham Flexner, Dr. Henry S. Prichett and Dr. George S. Simmons, alleging that the institution was damaged by a report on medical colleges read before the American Medical Association, at the recent meeting held in St. Louis. The three defendants made up the committee which investigated the educational standing of the medical colleges of the United States in behalf of the Carnegie Foundation for the advancement of teaching. The St. Louis College of Physicians and Surgeons was included in the list of those that were not considered efficient.

MEDICAL COLLEGE MUCKRAKING.

The muckraking of the medical colleges of the United States, if done sincerely and with freedom from ulterior motives, should result in great good to the people and the medical profession alike.

In the report just published by the Council of Medical Education of the American Medical Association the two Little Rock institutions, the medical department of the University of Arkansas, and the College of Physicians and Surgeons, are put in class b, which includes colleges needing certain improvements to make them acceptable.

This is the way the muckrake is handled in "Medical Education in the United States and Canada," Bulletin No. 4 of the Carnegie Foundation for the advancement of teaching, the college referred to being in a much larger city than Little Rock:

"The school occupies a building, which, in respect to filthy conditions, has few equals, but no superiors, among medical schools. Its anatomy room, containing a single cadaver, is indescribably foul; its chemical 'laboratory' is composed of old tables and a few bottles, without water, drain, lockers, or reagents; the pathological and histological 'laboratory' contains a few dirty slides and the ordinary microscopes."

The two medical colleges at Little Rock—which, however, are as good as scores of others and better than score of still others—should be consolidated and the standard raised, even at the cost of decimating the attendance for a few years. And the greater institution should not be a business enterprise. As the Carnegie Foundation report so well said, the training of physicians is not a business, but a vital social function. The state of Arkansas should support—even if real money had to be spent—one medical college and virtually suppress all others.—Arkansas Gazette.

NEW MEDICAL DIRECTOR TO SUPERVISE BATHS.

Major Harry M. Hallock, a retired surgeon of the United States army, was appointed July 7, by Secretary of the Interior Ballinger, medical director of the Hot Springs, Ark., reservation. This position has just been created by Mr. Ballinger, in accordance with the recommendation of Chief Clerk Ucker, who recently made an investigation of conditions at Hot Springs.

Dr. Hallock will have charge of the government bath house and will supervise from the

standpoint of hygiene and sanitation the bath houses operated by lessees, both on and off the reservation. He also will conduct clinics for bath house operators and attendants.—Arkansas Gazette.

Major General Leonard A. Wood assumed the duties of chief of staff and head of the United States army on Sunday, July 10. General Wood's taking over the reins of the administration of the office of chief of staff places the entire army under the command of two physicians who have actually and actively practiced medicine. Major General Fred C. Ainsworth, adjutant general of the army, is the other physician.

REPORT OF THE MAY EXAMINATION OF THE STATE MEDICAL BOARD.

At this examination there appeared ninety-three applicants, six of whom were colored.

Seventy-five applicants passed a satisfactory examination and were issued certificates, while eighteen failed to make the required general average of seventy-five per cent, and were refused certificates.

Schools represented at this examination as follows:

	Passed	Failed
University Med. Col., Kansas City, Mo.	6	0
Col. of P. & S., Little Rock, Ark.	5	5
University of Arkansas	15	3
Tulane Medical College	11	0
University of Nashville	5	0
Meharry Medical College	4	2
College of P. & S., Memphis, Tenn.	2	2
Memphis Hospital Medical College	12	2
St. Louis College of P. & S.	2	2
Southwestern University, Dallas, Tex.	4	0
Missouri Medical College	1	0
Ensworth Medical College	0	1
Barnes University	1	0
University of Louisville	2	1
Washington University	1	0
Dallas Medical College	0	1
Baylor University, Dallas, Tex.	1	0
Vanderbilt University	1	0
Rush Medical College	1	0

ABSTRACT OF PROCEEDINGS, HOUSE OF DELEGATES, ST. LOUIS MEETING.

The Sixty-first Annual Session of the American Medical Association was held at St. Louis, Mo., June 6-10, 1910. The registration was 4,070, this being the third meeting of the Association in point of size and only surpassed by the Boston session in 1906 and Chicago session in 1908. The weather was practically perfect and the local arrangements admirable.

The House of Delegates met on Monday morning in the auditorium of the St. Louis Medical Society. The president, Dr. W. C. Gorgas, U. S. A., read his address, in which the work of the Association was commended and a number of suggestions made. The report of the general secretary showed that during the past year 289 members had died, 1,937 had resigned, 1,031 had been dropped and 95 had been removed from the rolls on account of being reported as "not found," making a total loss of 3,352. During the year 3,593 new members were added, making a membership on May 1, 1910, of 34,176. The application of the Medical Association of the Isthmian Canal Zone for recognition as a constituent association was presented. The death of ex-President Herbert L. Burrell was commented on. The secretary presented a tabulation showing the membership in the constituent state associations, amounting to 74,146. The history of the secretaryship and its connection with the editorship of the Journal was reviewed. Dr. Simons presented his resignation as general secretary and asked that it be accepted. The report was referred to the reference committee on report of officers.

The report of the Board of Trustees showed encouraging progress in all lines of association work, the work of the Council on Pharmacy and Chemistry, Council on Medical Education, Committee on Medical Legislation, Committee on Nomenclature and Classification of Diseases and the Committee on Ophthalmia Neonatorum being especially commended. The trustees recommended that the report of the Committee on Organization of a Council on Health and Public Instruction be carefully considered. The addenda to the trustees' report included a report from the subscription department, showing the average weekly circulation of the Journal for 1909 as 55,361. The treasurer's report showed a surplus in the treasurer's hands on January 1, 1910, of \$163,-

340.72. The auditor's report showed property to the amount of \$172,081.86 and total assets of \$399,462.16. The report was referred to the Reference Committee on Reports of Officers. The report of the Committee on Medical Legislation was presented by Dr. C. A. L. Reed, of Cincinnati, chairman. The year's work on national and state legislation was reviewed. Dr. Reed presented his resignation as chairman of the committee. The report was referred to the Reference Committee on Legislation and Political Action. Dr. A. D. Bevan, Illinois, presented the report of the Council on Medical Education, stating that during the past year the second tour of inspection of medical schools of the country had been made and submitting as a part of the report a classification of medical schools into three classes: (a) acceptable, (b) needing certain improvements to make them acceptable, and (c) those which would require complete reorganization. The report of the council was referred to the Reference Committee on Medical Education.

At the afternoon session the Board of Public Instruction and the Director of the Post-graduate Work submitted their reports. Dr. F. Park Lewis submitted the report of the Committee on Ophthalmia Neonatorum, reviewing the work of the past year and recommending that its work be enlarged so as to include all preventable causes of blindness, also that renewed efforts be made to have all births reported promptly so as to make possible more thorough work in the prevention of blindness. The report was adopted and the committee continued.

Dr. H. O. Marcey, Massachusetts, submitted the report on Davis memorial fund, showing total contributions of \$2,771.34. Dr. Marcey presented his resignation as chairman, and Dr. Billings presented his resignation as secretary of the Davis memorial fund. The report was referred to the Board of Trustees. The Committee on Nomenclature and Classification of Diseases reported progress. The Council on Defense of Medical Research reported the publication during the past year of thirteen pamphlets written by experts in the various fields and prepared for general distribution. The council has also given much material to the daily press. The formation of a society of laymen for the promotion of medical research is being considered.

The reports of the following committees were presented: Patents and Trade-Marks, Uniform Regulation of Membership, Elaboration of the Principles of Ethics, and the Unit-

ed States Pharmacopeia. The Committee on Anesthesia reported progress. It finds itself as yet unable to submit full and final reports for publication, but reaffirms the finding of the committee of 1908, that for general use ether is to be regarded as the safest anesthetic. Major M. W. Ireland, U. S. A., presented a report from the Committee on Insignia, recommending the adoption of an official button showing the knotted rod and serpent as the insignia of the association. Dr. Edward Jackson, Colorado, presented a report from the Committee on the Establishment of a Physicians' Sanitarium, recommending the appointment of a committee to draw up a plan for a corporate body to receive and administer funds for the relief of disabled physicians, and to establish a sanitarium for physicians suffering from tuberculosis. The report was referred to the Board of Trustees. President Gorgas submitted a report from the Committee on Memorial to Medical Officers of the Civil War, showing that three members had been appointed and that the two remaining positions would be filled by the appointment of one volunteer surgeon from the Union army and one from the Confederate army. After the presentation of a number of resolutions, which were referred to appropriate committees, the House of Delegates adjourned until Tuesday.

The House met on Tuesday afternoon with the newly installed president, Dr. William H. Welch, in the chair. Dr. Frank B. Wynn, Indiana, presented the report of the Committee on Scientific Exhibit, recommending the preparation of cheap, compact and complete exhibits for the education of the public on all the problems of public health and comfort. Dr. Alfred Stengel, Pennsylvania, presented the report of the Committee on Scientific Research, showing that three grants of \$200 each had been made for the current year as follows: Dr. R. M. Pearce, New York; Dr. Gerald B. Webb, Chicago, and Dr. E. C. Rose-nau, Chicago. The Committee on Organization of Council on Health and Public Instruction recommended that the Committee on Organization, Medical Legislation, Public Instruction and Defense of Medical Research be abolished and that a council of five, to be known as the Council on Health and Public Instruction, be created. This report was referred to the Reference Committee on Amendments to the Constitution and By-laws. The Reference Committee on Section and Section Work reported, recommending the organization of a section on genito-urinary diseases, with the

following officers to serve for the coming year: Chairman, W. T. Belfield, Chicago; vice chairman, James Peterson, New York; secretary, Hugh Young, Baltimore. The committee recommended that sections on physical forces in medicine and on hospitals be not established at present. The report was adopted. The Reference Committee on Medical Education endorsed the work of the Council on Medical Education, and recommended that the rating and classification of medical schools as determined by the council should be made public, and that the council should be instructed to continue its investigations. The classified list of colleges was presented as a part of the committee's report.

The Reference Committee on Reports of Officers recommended that the request of Dr. Simmons regarding his resignation as general secretary be respected and that his resignation be accepted, in order that he might devote himself exclusively to the duties of editor of the Journal of the American Medical Association. This report was adopted. The reference committee on miscellaneous business recommended that the reports of the Committees on Pharmacopeia, Nomenclature and Classification of Diseases and Miscellaneous Business be accepted and the committees continued. Dr. J. N. McCormack presented the report of the Committee on Organization, reviewing the work done for a department of public health and presenting the following resolutions:

Resolved, That the president be, and is hereby authorized to appoint a committee of seven members, which shall be charged with the duty of framing a bill for a national department of health, to be presented to the next session of congress in December, and that this committee shall consider and determine all matters and policies relating to national health legislation, and may invite the coöperation and coöperate with other organizations having the same purpose in view.

Resolved, That the principles of the Owen bill, having for its object the creation of a national department of health, now pending in the Senate, and similar bills introduced in the House by Representatives Simmons, Creger and Hanna, be, and are hereby heartily approved by this association, and the cordial thanks of the medical profession of the United States, officially represented by it, are hereby tendered to Senator Robert L. Owen, Irving Fisher and their coworkers for their able and unselfish efforts to conserve and promote the most important asset of the

nation, the health and lives of its women, its children and its men, properly understood the greatest economic question now confronting our people.

The members of this association stand for pure food, pure drugs, better doctors, the promotion of healthier and cleaner homes, and cleaner living for individuals, for the State and for the nation. We believe this to be held as equally true by the reputable and informed physicians of all schools or systems of practice.

We welcome the opposition of the venal classes long and profitably engaged in the manufacture of adulterated foods, habit-producing nostrums and other impositions on the people—to the extent of hundreds of millions of dollars annually—and express our sympathy for the well-meaning men and women who have been misled and worked into hysterics by the monstrously wicked misrepresentations of a corrupt and noisy band of conspirators and who are being used as blind instruments to enable them to continue to defraud and debauch the American people.

Medical science is advancing, especially on its life-saving side, with a rapidity unknown to any other branch of human knowledge. It is known of all men that our members in every community in the United States are unselfishly working day and night, instructing the people how to prevent tuberculosis, typhoid fever and the other diseases from which physicians earn their livelihood. Therefore, we welcome and will wear as a badge of honor the slanders of these unholy interests and their hirelings.

These resolutions were later on unanimously adopted by a rising vote.

Dr. T. D. Tuttle, Montana, moved the appointment of a committee to prepare suitable resolutions in regard to the death of Dr. Ricketts, after which the House of Delegates adjourned until Wednesday afternoon.

At the Wednesday session Dr. Rosalie Slaughter Morton, New York, was granted the privilege of the floor to present the report of the Public Health Education Committee. The Reference Committee on Legislation and Political Action commended the work of the Committee and Bureau of Medical Legislation and recommended that Dr. Reed's resignation be accepted, with an expression of appreciation of his untiring, loyal and faithful services. The Reference Committee on Hygiene and Public Health commended the work of the Journal in the direction of the sane Fourth of July. The Reference Committee on Reports

of Officers submitted a supplementary report on Dr. McCormack's work, endorsing his recommendation of the appointment of a special committee of seven charged with the framing of a bill for a national department of health to be presented at the next session of congress. Following the adoption of this report, Dr. Guthrie, Pennsylvania, moved the adoption of the resolution presented by Dr. McCormack. This motion was unanimously carried. The Committee on Awards recommended that a gold medal be given to Dr. Claude A. Smith, of Atlanta, Ga., for an exhibit of experimental researches on hookworm disease, and that certificates of honor be awarded to the following exhibitors: University of Minnesota, St. Louis University, St. Mary's Hospital, Rochester, Minn., St. Louis City Hospital, Indianapolis Department of Public Health, University of Michigan, Dr. Honwink of St. Louis, Special Committee on Prevention of Blindness, New York, Northwestern University of Chicago, St. Louis Medical History Club. The following resolutions were then presented and adopted regarding the death of Dr. H. T. Ricketts:

Whereas, Howard Taylor Ricketts, a member of the American Medical Association, lost his life on May 3, 1910, from typhus fever, contracted while engaged in an investigation of that disease in the city of Mexico; and

Whereas, He sacrificed himself in the study of a preventable disease and in the interest of the health and lives of the human race; and

Whereas, His masterly attainments as a scientific worker in this and other fields rendered his life of inestimable worth to the medical profession and the world at large; therefore, be it

Resolved, That the American Medical Association, in convention assembled, herewith express its high appreciation of the ideals, the efforts and the achievements of this brilliant investigator, and its deep sorrow at the loss of a most brilliant investigator, and its deep sorrow at the loss of a most valued and cherished member; and

Resolved, That we herewith express our sorrow in the death of Dr. Conneffe, of Ohio, who lost his life as a result of infection with typhus fever while working with Dr. Ricketts in Mexico City; and

Resolved That these resolutions be spread on the minutes of this association and published in the Journal.

After the election of a number of associate members and the presentation of miscellan-

eous resolutions, which were referred to appropriate committees, the House adjourned until Thursday morning.

A special meeting of the House was held on Thursday morning to consider the report of the Reference Committee on Amendments to the Constitution and By-laws. A large number of amendments, consisting mainly of verbal modifications, were adopted. The last meeting of the House of Delegates was held on Thursday afternoon, the election of officers being the first order of business. The following officers were elected: president, Dr. John B. Murphy, Chicago; first vice president, Dr. E. E. Montgomery, Philadelphia; second vice president, Dr. R. C. Coffey, Portland, Oregon; third vice president, Dr. W. G. Moore, St. Louis; fourth vice president, Dr. H. L. E. Johnson, Washington, D. C.

When nominations for general secretary were called for, Dr. I. C. Chase, of Texas, nominated Dr. Simmons for reelection in a speech which invoked repeated rounds of applause. In spite of the fact that his resignation had been presented and accepted, it was evident that the House of Delegates was determined to reelect him. After a large number of delegates from different States had expressed their views, Dr. Simmons was unanimously reelected. Dr. Frank Billings was nominated for reelection as treasurer by the Board of Trustees, and was elected. The following trustees were then elected to serve until 1913; Dr. W. W. Grant, Denver, Colo. (reelected); Dr. C. E. Cantrell, Greenville, Texas (reelected); Dr. Frank J. Lutz, St. Louis, Mo. The president appointed the following as members of standing committees, the appointments being confirmed by the House of Delegates:

The Council on Medical Education: Dr. George Dock, St. Louis, to succeed Dr. E. E. Southard, to serve until 1915.

Council on Health and Public Instruction: Dr. H. M. Bracken, Minneapolis, to represent public health; Dr. W. B. Cannon, Boston, to represent defense of medical research; Dr. Henry F. Favill, Chicago, to represent public instruction; Dr. J. N. McCormack, Bowling Green, Ky., to represent organization, and Dr. W. C. Woodard, Washington, D. C., to represent legislation.

The Reference Committee on Sections and Section Work recommended the election to honorary membership of Dr. Alfred Saenger, Hamburg, Germany; Mr. J. Herbert Parsons, F. R. C. S., London, England, and Dr. James H. Honan, Berlin. The Board of Trustees re-

ported regarding the publication of special journals on surgery and pediatrics, and after extended discussion, the matter was referred back to the board with full power to act.

Invitations for 1911 were presented from Los Angeles, Cal., and Buffalo, N. Y., and on ballot, Los Angeles was chosen, 61 to 58.

The Reference Committee on Hygiene and Public Health presented a report condemning the multiplication of optometry boards and the appointment of nonmedical and unqualified persons thereon, recommending the formation of a Committee on the Prevention of Blindness and authorizing the appointment of a committee to cooperate with the department of commerce and labor with a view to establishing proper visual standards and tests for pilots. Following the adoption of resolutions of thanks to the Missouri State Medical Association, The St. Louis Medical Society, Governor Hadley, Dr. Dorsett and his local committee of arrangements, the House of Delegates adjourned, *sine die*.

The attendance of the House of Delegates was large, 133 delegates being registered. An enormous amount of legislative work was done, the bulk of which was transacted in committees. The revision of the constitution and by-laws and the reorganization of the standing committees will greatly strengthen the work of the association and increase the possibilities for improved work. Taken as a whole, it was one of the most important sessions which the association has had and the prospects for the coming year are better than ever before.

News Items.

Dr. Geo. E. Pettey, of Memphis, has admitted his former assistant, Dr. W. R. Wallace, as a full partner in his sanitarium, and they have built a forty-room addition.

The new building has been constructed according to plans especially adapted to their work, rooms en suite or single, with private bath, hot and cold water, electric bell system, steam heat, with every convenience for the employment of hydro and electrotherapy. Separate buildings for male and female patients. They will confine their work principally to the treatment of alcohol and drug addiction, and they will hereafter also admit patients suffering from mental and nervous diseases. A detached building will be used for the mental cases, where especial attention will be given

to the treatment of acute insanity. Violently insane patients will be admitted for treatment during the acute stage.

Personals.

Dr. F. T. Murphy, of Brinkley, secretary of the State Board of Medical Examiners of the Arkansas Medical Society, was in the city June 30 and, while here bought an "Overland" automobile.

Dr. Southall, of Lonoke, and Dr. Hart, of Dardanelle, spent July 4 in the city.

Dr. C. C. Stephenson, ex-president and secretary of the Arkansas Medical Society, is now located in Los Angeles, Cal., 331 H. W. Hillman Building. His Arkansas friends will be glad to know that he is doing well.

Dr. J. E. McMahan, of Kendall, is in Chicago taking a postgraduate course.

Dr. J. M. Barstow, of Council Bluffs, Iowa, visited in Little Rock for a few days after the St. Louis meeting.

Deaths.

Dr. C. C. Carroll, of Tillar, died July 1 at Eureka Springs, where he had gone in search of health. He was buried in this city July 3.

Marriages.

Dr. I. N. McCallum and Miss Nora Thompson, both of Conway, were married on June 28.

County Societies

BOONE COUNTY.—The Boone County Medical Society met in Harrison on July 5, with the following members present: Dr. A. M. Hathcock, president; H. L. Routh, A. J. Vance, J. L. Sims, D. E. Evans, J. H. Fowler, L. Kirby and F. B. Kirby. Dr. L. Kirby read a paper on medical education.

F. B. KIRBY, *Secretary*.

FAULKNER COUNTY.—The Faulkner County Medical Society held its regular meeting June

16, with a good attendance of members, besides several visitors.

The subject of gastro-intestinal troubles of infancy and childhood was taken up and freely discussed by all present.

Dr. J. M. Muse reported a case of hookworm disease in a child three years of age, exhibiting a number of parasites. The case had been treated for a long time as one of chronic malaria. This is the first case of the disease reported in this county.

J. H. WESTERFIELD, *Secretary*.

LAWRENCE COUNTY.—The Lawrence County Medical Society held its regular meeting on Wednesday, July 6, at Black Rock. Several very interesting scientific papers were read. The papers were well discussed, and all present were unanimous in saying that it was one of the best meetings that the society ever had. The following members were present: J. W. Coffman, J. O. Hatcher, W. W. Hatcher, A. G. Henderson, J. C. Hughes, J. W. Morris, H. R. McCarroll, W. J. Robinson, J. M. Stephens, G. A. Warren, J. R. Wells and B. R. Woodyard.

JOHNSON COUNTY.—The Johnson County Medical Society met in the secretary's office Monday, June 6, 1910. A paper on "Posterior Urethritis" was read by Dr. Earl H. Hunt. Discussion led by Dr. Fair.

L. A. COOK, *Secretary*.

Obituary.

The body of Dr. G. M. D. Cantrell, who died Thursday, July 21, in Denver, Col., arrived at 7:00 o'clock Tuesday morning, July 26, over the Iron Mountain Railroad. Funeral services were held at 2:00 o'clock the same afternoon from the residence, 216 East Seventh Street. Rev. Henry N. Hyde and Rev. Charles R. Hyde officiated. The body was sent to Nashville, Tenn., for burial.

The Pulaski County Medical Society passed the following resolutions on Dr. Cantrell's death:

"Whereas, Almighty God, in His infinite wisdom, has seen fit to take from our midst our friend and brother, Dr. G. M. D. Cantrell, and

"Whereas, We, his brother physicians, do deeply and sincerely mourn his loss; therefore, be it

"Resolved, That we, the members of the Pulaski County Medical Society, have sustained the loss of a beloved brother, the medical profession of an upright and skillful physician, and the community at large of an honorable and useful citizen; and be it further

"Resolved, That a copy of these resolutions be spread on the minutes of this society, published in the Journal of the Arkansas State Medical Society and in the Arkansas Daily Gazette.

"E. P. BLEDSOE,

"F. L. FRENCH,

"JAMES H. LENOW,

"Committee on Resolutions."

Book Reviews.

Modern Medicine—Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, assisted by Thomas McCrae, M. D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. VII, Diseases of the Nervous System. Cloth. Price, \$6.00 net. Pages 969, with illustrations. Philadelphia: Lea & Febiger, 1910.

After three years of laborious work, the great undertaking of giving to the medical profession "Modern Medicine" has been completed. When one considers the magnitude of this great work, the wonder is that it is finished even in three years.

"Modern Medicine" comprises seven volumes, and is a library within itself. The authors of this, the last volume, are: L. F. Barker ("Introduction to Diseases of the Nervous System"); E. Bramwell ("Sclerosis of the Brain and Diseases of the Meninges"); Chas. W. Burr ("Neurasthenia; the Traumatic Neuroses and Psychoses"); E. F. Buzzard ("Diffuse and Focal Diseases of the Spinal Cord"); Joseph Collins ("Topical Diagnosis of Disease of the Brain, Aphasia"); Harvey Cushing ("Tumors of the Brain and Meninges; Hydrocephalus"); Gordon M. Holmes ("Diseases of the Peripheral Nerves"); Smith Ely Jelliffe ("Migraine, Neuralgia, Professional Spasms, Occupation Neuroses, Tetany"); D. J. McCarthy ("Paralysis Agitans, Chorea, Choreiform Affections, Infantile Convulsions"); Colin K. Russell ("Combined Diseases of the Spinal Cord"); B. Sachs ("Amurotic Family Idiocy"); E. C. Southard ("Acute Encephalitis and Brain Abscess"); W. G. Spiller ("Diseases of Motor Tracts");

W. P. Spratling ("Epilepsy"); E. W. Taylor ("Diseases of the Cerebral Nerves"); H. M. Thomas ("Diseases of the Cerebral Blood-vessels").

The standards of previous volumes are reflected fully in this present volume. In a word, the authors of this volume have measured up to their responsibilities. It is a noteworthy fact that all of them occupy the highest position as leaders and teachers.

The thirty-seven plates are valuable, some very valuable, besides "test figures," which are also good.

From every viewpoint "Modern Medicine" may be truly regarded as a work of wonderful merit, usefulness—yes, magnificence—and wherever scientific medicine is practiced will be authority for many years to come.

The profession no doubt will rejoice at the completion of this system and manifest its appreciation by exhausting the present edition quickly.

C. C. S.

Publisher's Notice.

THE HAY FEVER PROBLEM.

Again the physician is called upon to grapple with hay fever, and a veritable army of sneezing, watery-eyed "miserables" come to him for relief. For a long time the idea was prevalent that little or nothing could be done for these people. The patient dreaded the coming of the disease and the physician dreaded the coming of the patient. The situation was one of ample misgivings and scanty faith. Now it is pretty well recognized that medication, while still empiric to a certain extent, is nevertheless effective. The symptoms can be controlled or greatly minimized, and

the patient may have the relief he seeks. And for this much he will be truly thankful, and the physician, in turn, duly thanked.

Adrenalin is perhaps the most effective agent. It antagonizes the symptoms and secures to the patient a marked degree of comfort. It allays the congestion of the mucous membrane, reduces the swelling of the turbinal tissues, controls the nasal discharge, cuts short the violent paroxysms of sneezing and the abundant lachrimation, and prevents depression by stimulating the heart.

The practitioner who desires to employ Adrenalin in the treatment of hay fever has recourse to the product in a number of forms. Adrenalin Chloride Solution (1:1000) is doubtless the most widely used. It is first diluted with four to five times its volume of physiological salt solution, then sprayed into the nares and pharynx. Adrenalin Inhalant has many adherents. This is an oil solution, and is administered by spray. It may be diluted with olive oil—the inhalant one part, olive oil three to four parts. A third preparation is Adrenalin and Chloretone Ointment (1:1000), which is effective either alone or in supplementing Solution Adrenalin Chloride. Another is Adrenalin and Chloretone Ointment—at once an astringent, antiseptic and mild anesthetic. The latest is Anesthone Cream (Adrenalin Chloride 1:20,000, para-amido-ethyl-benzoate 10 per cent, in a bland oil base), an astringent, anesthetic ointment. The ointments and cream are supplied in collapsible tubes with elongated nozzle, which facilitates their application to the nasal mucosa.

Literature on any or all of the products above mentioned may be had upon application to the manufacturers, Messrs. Parke, Davis & Co., at their general offices in Detroit, or any of their numerous branch houses. The company, by the way, issues an attractive brochure on the subject of hay fever.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
 Secretary—George H. Simmons, 535 Dearborn Ave., Chicago.
 Treasurer—Frank Billings, Chicago.
 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
 Judicial Council—William C. Woodward, Washington, D. C., chairman; Lawrence M. Shaw, Osceola, Neb.; Louis A. Hahn, Guthrie, Okla.; Charles S. Huffman, Columbus, Kan.; George K. Angle, Silver City, N. M.
 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912; Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kebler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
 Council on Health and Public Instruction—H. M. Bracken, Minneapolis; W. B. Cannon, Boston; H. B. Favill, Chicago; J. N. McCormack, Bowling Green, Ky.; W. C. Woodward, Washington, D. C.
 Director of the Scientific Exhibit—Frank B. Wynn, 311 Newton-Claypool Bldg., Indianapolis.

OFFICERS OF SECTIONS

Practice of Medicine—Chairman, Allen A. Jones, Buffalo; vice chairman, Charles L. Greene, St. Paul; secretary, Wilder Tileston, 308 Crown St., New Haven.
 Obstetrics and Diseases of Women—Chairman, Horace G. Wetherill, Denver; vice chairman, Fred J. Taussig, St. Louis; secretary, C. Jeff Miller, 404 Medical Bldg., New Orleans.
 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shambaugh, 100 State St., Chicago.
 Nervous and Mental Diseases—Chairman, W. A. Jones, Minneapolis; vice chairman, Herman H. Hoppe, Cincinnati; secretary, E. E. Southard, 37 Trowbridge St., Cambridge, Mass.
 Preventive Medicine and Public Health—Chairman, W. A. Evans, Chicago; vice chairman, Marshall Langton Price, Baltimore; secretary, C. Hampson Jones, 2529 St. Paul St., Baltimore.
 Stomatology—Chairman, S. L. McCurdy, Pittsburg, Pa.; vice chairman, Virgil Loeb, St. Louis; secretary, Eugene S. Talbot, 103 State St., Chicago.
 Diseases of Children—Chairman, S. M. Hamill, Philadelphia; vice chairman, Thomas D. Parke, Birmingham, Ala.; secretary, L. T. Royster, Norfolk, Va.
 Dermatology—Chairman, Charles J. White, Boston; vice chairman, Martin F. Engman, St. Louis; secretary, H. R. Varney, 604 Washington Arcade, Detroit.
 Pharmacology and Therapeutics—Chairman, Lawrence Litchfield, Pittsburg, Pa.; vice chairman, George B. Wallace, New York; secretary, M. I. Wilbert, Twenty-fifth and E Sts., N. W., Washington, D. C.
 Pathology and Physiology—Chairman, Yandell Henderson, New Haven, Conn.; secretary, Leo Loeb, 4109 Pine St., Philadelphia.
 Genito-Urinary Diseases—Chairman, W. T. Belfeld, Chicago; vice chairman, James Pedersen, New York; secretary, Hugh H. Young, Professional Bldg., Baltimore.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frostville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothren, Walcott.
 Treasurer—J. S. Wood, Hot Springs.
 Secretary—Morgan Smith, Little Rock.
 Delegate to American Medical Association—J. F. Clegg, Siloam Springs.
 Alternate—R. H. Barry, Hot Springs.

OFFICERS OF SECTIONS.

Medicine—T. F. Kitrell, Texarkana, chairman; A. S. Buchanan, Prescott, secretary.
 Surgery—Henry Dickson, Paragould, chairman; Will Owen, Paragould, secretary.
 Obstetrics and Gynecology—S. J. Hesterly, Prescott, chairman; W. C. Dunaway, Little Rock, secretary.
 Pathology—M. D. Orden, Little Rock, chairman; William H. Deaderick, Helena, secretary.
 State of Medicine and Public Hygiene—St. Cloud Cooper, Fort Smith, chairman; Anderson Watkins, Little Rock, secretary.
 Dermatology and Syphilology—Samuel Steer, Hot Springs, chairman; M. F. Mount, Hot Springs, secretary.

COMMITTEES 1910-1911.

Committee on State Legislation and Public Policy—F. T. Murphy, chairman, Brinkley; M. L. Norwood, Locksburg; J. G. Eberle, Fort Smith.
 Committee on Scientific Work—B. L. Harrison, Little Rock, chairman; H. H. Neihuss, Wesson.
 Tuberculosis Committee—F. B. Young, Springdale, chairman; H. T. Thibault, Scott; A. J. Vance, Harrison.

COUNCILOR DISTRICTS AND COUNCILORS.

1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Cleburne, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmot. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Neihuss, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, A. H. McKenzie, Dardanelle. Term of office expires 1912.
 Ninth Councilor District—Baxter, Boone, Carroll, Marion, Newton, Searcy, Stone and Van Buren counties. Councilor, C. T. Canady, Marshall. Term of office expires 1911.
 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

STATE BOARDS OF MEDICAL EXAMINERS

Board of Ark. Medical Society	Eclectic Board
M. Fink, Helena.....	E. H. Stevenson, Pres., Ft. Smith....
F. T. Murphy, Sec., Brinkley.....	Pearl Hale Tatman, Eureka Spgs....
F. B. Young, Springdale.....	W. H. Simmons, Rector.....
M. L. Norwood, Lockesburg.....	Claude Laws, Ft. Smith.....
Geo. S. Brown, Pres., Conway.....	R. L. Smith, Russellville.....
W. S. Stewart, Pine Bluff.....	J. L. Vail, Little Rock.....
J. C. Wallis, Arkadelphia.....	G. A. Hinton, Sec., Hot Springs....

OFFICERS OF COMPONENT SOCIETIES

County Society	President	Address	Secretary	Address
Arkansas.....	W. H. Morehead.....	Stuttgart	E. H. Winkler.....	DeWitt
Ashley.....	M. C. Hankins.....	Parkdale	A. E. Cone.....	Portland
Baxter.....	J. A. Hipp.....	Buford	J. J. Morrow.....	Cotter
Benton.....	E. E. Pickens.....	Rogers	J. A. Fergus.....	Rogers
Boone.....	A. M. Hathecock.....	Harrison	F. B. Kirby.....	Harrison
Bradley.....			R. Martin.....	Warren
Calhoun.....	E. Jones.....	Harrell	T. E. Rhine.....	Thornton
Carroll.....	J. D. Jordon.....	Eureka Springs	Henry Pace.....	Eureka Springs
Chicot.....	E. Baker.....	Dermott	P. E. Johnson.....	Blissville
Clay.....	A. North.....	Palatka	N. J. Latimer.....	Corning
Clark.....	F. R. Fleming.....	Arkadelphia	J. H. Bell.....	Arkadelphia
Cleveland.....	Chas. Leali.....	Kingsland	J. F. Crump.....	Rison
Columbia.....			P. M. Smith.....	Mangolia
Conway.....	F. Gordon.....	Morrilton	G. W. Ringgold.....	Morrilton
Craighead.....	W. W. Jackson.....	Jonesboro	C. Lutterloh.....	Jonesboro
Crawford.....	Giles Lucus.....	Van Buren	J. E. Blakemore.....	Van Buren
Dallas.....	C. J. March.....	Fordyce	H. H. Atkinson.....	Fordyce
Desha.....	A. Isom.....	Dumas	J. M. Stuart.....	McGehee
Drew.....	W. A. Brown.....	Monticello	A. S. J. Collins.....	Monticello
Faulkner.....	J. W. DeJarnett.....	Guy	J. S. Westerfield.....	Conway
Franklin.....	J. C. Harrod.....	Denning	Thomas Douglass.....	Ozark
Grant.....	J. L. Butler.....	Sheridan	J. B. Shaw.....	Sheridan
Greene.....	— Dickson.....	Paragould	Olive Wilson.....	Paragould
Hempstead.....	T. J. Garner.....	Washington	J. H. Weaver.....	Hope
Hot Spring.....	W. A. Carroll.....	Saginaw	R. Y. Phillips.....	Malvern
Hot Springs-Garland.....	J. W. McClendon.....	Hot Springs	J. S. Wood.....	Hot Springs
Howard-Pike.....	W. M. Gibson.....	Nashville	J. S. Hopkins.....	Nashville
Independence.....	O. J. T. Johnson.....	Floral	F. A. Gray.....	Batesville
Jackson.....	O. A. Jamison.....	Tuckerman	E. L. Watson.....	Newport
Jefferson.....	J. S. Jenkins.....	Pine Bluff	W. T. Lowe.....	Pine Bluff
Johnson.....	E. H. Hunt.....	Clarksville	L. A. Cook.....	Clarksville
Lafayette.....	D. W. Bright.....	Lewisville	F. W. Youmans.....	Lewisville
Lawrence.....	G. A. Warren.....	Black Rock	H. R. McCarroll.....	Walnut Ridge
Lee.....			D. C. Carter.....	Marianna
Little River.....	W. L. Shirey.....	Foreman	W. E. Vaughan.....	Richmond
Lincoln.....	W. C. Kimbro.....	Tyro	B. F. Tarver.....	Star City
Logan.....	E. E. Scott.....	Magazine	J. S. Shibley.....	Paris
Lonoke.....	S. A. Southall.....	Lonoke	F. A. Corn.....	Lonoke
Montgomery.....	L. S. Kennedy.....	Mt. Ida	J. H. McClean.....	Caddo Gap
Miller.....	R. L. Grant.....	Texarkana	T. E. Fuller.....	Texarkana
Mississippi.....	R. P. Nall.....	Armored	Oleander Howton.....	Osceola
Monroe.....	F. T. Murphy.....	Brinkley	E. D. McKnight.....	Brinkley
Nevada.....	S. J. Hesterly.....	Prescott	A. S. Buchanan.....	Prescott
Ouachita.....	G. W. Hudson.....	Camden	H. H. Henry.....	Eagle Mills
Perry.....	M. E. Howard.....	Perryville	W. S. Blackwell.....	Bigelow
Phillips.....	H. H. Rightor.....	Helena	G. G. Altman.....	Helena
Polk.....			F. A. Lee.....	Mena
Pope.....	W. A. Montgomery.....	Atkins	J. F. Hays.....	Russellville
Prairie.....	E. H. Wilks.....	Des Arc	James Parker.....	DeVall's Bluff
Pulaski.....	M. D. Ogden.....	Little Rock	A. L. Carmichael.....	Little Rock
Randolph.....	J. W. Brown.....	Foster	W. E. Hughes.....	Pocahontas
Saline.....	C. N. Fisher.....	Benton	Chas. Prickett.....	Traskwood
Sebastian.....	D. R. Dorente.....	Fort Smith	Clark Wood.....	Fort Smith
Searcy.....	E. W. Wood.....	Marshall	C. B. Hollabaugh.....	Leslie
Sevier.....			C. A. Archer.....	De Queen
Sharp.....	T. J. Woods.....	Evening Shade	E. M. Gray.....	Poughkeepsie
St. Francis.....	L. H. Merritt.....	Forrest City	J. A. Bogart.....	Forrest City
Union.....	J. M. Sheppard.....	El Dorado	J. B. Wharton.....	El Dorado
Washington.....	C. F. Perkins.....	Springdale	Nina V. Hardin.....	Fayetteville
White-Cleburne.....	W. J. Miller.....	Griffithville	J. W. Hassell.....	Searcy
Woodruff.....	R. Q. Patterson.....	Augusta	L. E. Biles.....	Augusta
Yell.....	S. E. Miller.....	Dardanelle	A. H. McKenzie.....	Dardanelle

MEMBERS OF COMPONENT SOCIETIES.

Arkansas County.

Boswell, W. H. Almyra
Bunn, A. D. Humphreys
Derrick, H. C. De Luce
Fowler, Arthur. Humphrey
Holcomb, T. J. De Witt
Hill, B. H. Stuttgart
Lowe, A. M. Gillett
Lowe, W. W. Gillett
Moorhead, W. H. Stuttgart
Morpheus, L. H. Stuttgart
Rascoe, C. W. De Witt
Park, C. E. De Witt
Sillin, C. W. Stuttgart
Winkler, E. H. De Witt

Ashley County.

Baker, J. P. Blissville
Cockersham, H. E. Portland
Cone, A. E. Portland
Crow, L. M. Crossett
George, B. F. Parkdale
Hawkins, M. C. Parkdale
Knott, A. D. Wilmot
Norman, W. S. Hamburg
Raines, Thomas. Morrell
Simpson, J. W. Hamburg
Scott, E. M. Hamburg
Sparks, J. E. Crossett
Williams, R. G. Parkdale

Baxter County.

Cannady, C. T. Cotter
Hipp, J. A. Buford
Roe, J. B. Calico Rock
Smith, H. H. Calico Rock
Morrow, J. J. Calico Rock

Benton County.

Beard, J. H. Gentry
Buffington, O. H. Decatur
Clegg, J. T. Siloam Springs
Cargile, Chas. H. Bentonville
Clemmer, J. L. Springtown
Duncan, M. W. Centertown
Duckworth, F. M. Siloam Springs
Eubanks, F. G. Decatur
Furgus, J. A. Rogers
Green, L. O. Pea Ridge
Griffin, J. M. Sulphur Springs
Horton, C. W. Hiwassa
Hurley, T. W. Bentonville
Hurley, C. E. Bentonville
Hughes, J. A. Gravette
Higfill, G. A. Osage Mills
Lindsey, J. H. Bentonville
Mathis, J. B. Lowell
Powell, J. T. Maysville
Pickens, E. E. Rogers
Rice, T. M. Averce
Rice, C. A. Gentry
Rice, R. S. Rogers
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Sexton, J. Z. Siloam Springs
Thomason, H. E. Siloam Springs
Webster, J. W. Siloam Springs

Boone County.

Bolinger, John. Lead Hill
Bains, Swartz. Bergman
Crebs, R. S. Olvey
Elton, A. M. Bruno
Evans, D. E. Harrison
Fowler, J. H. Harrison
Hathcock, C. M. Harrison
Johnson, J. J. Harrison
Kirby, F. B. Harrison
Kirby, L. Harrison
McCurry, D. K. Alpena Pass
Potts, J. R. Harrison
Routh, Chas. M. Batavia
Routh, H. L. Batavia
Sims, J. L. Harrison
Vance, A. J. Harrison
Watkins, G. J. Bellefonte
Womack, O. K. Valley Springs

Bradley County.

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Crow, M. T. Ingalls
Eike, W. T. Warren
Green, B. H. Warren
Herring, S. R. Warren
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Martin, C. N. Warren
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Thompson, W. A. Hermitage, Okla.
Wilson, G. L. Hermitage

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Jones, E. Harrell
Jones, E. T. Hampton
Rhine, T. E. Thornton
Wilson, D. F. Hampton

Carroll County.

Bolton, J. Fred. Eureka Springs
Davis, C. E. Eureka Springs
Floyd, R. G. Eureka Springs
George, W. P. Berryville
George, Charles. Berryville
Jordan, J. D. Eureka Springs
John, J. F. Eureka Springs
Pace, Henry. Eureka Springs
Poynter, I. M. Berryville

Chicot County.

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Barlow, E. E. Dermott
Baker, E. Dermott
Blanks, J. T. Dermott
Booth, G. E. Lake Village
Johnson, R. E. Blissville
McGehee, E. P. Lake Village
Norton, M. M. Sunny Side
Scott, S. S. Eudora

Clay County.

Cunning, I. H. Knobel
Green, T. H. Dumas
Hughey, M. C. Rector
Hiller, J. P. Pollard
Latimer, N. J. Corning
McKinney, A. B. Corning
Newkirk, C. H. Datto
Simpson, A. R. Corning
Thornton, E. W. Piggott

Clark County.

Bell, J. H. Arkadelphia
Cuffman, J. H. Gurdon
Doane, S. N. Arkadelphia
Fleming, F. R. Arkadelphia
Hardy, H. Stroud
Hearn, A. G. Gurdon
Kirby, D. W. Gurdon
McLean, C. W. Gurdon
Moore, W. M. Arkadelphia
Rowland, W. T. Arkadelphia
Smith, R. L. Okolona
Townsend, N. R. Arkadelphia
Wallis, J. C. Arkadelphia
Williams, E. K. Arkadelphia
Yarbrough, J. E. Amity

Cleveland County.

Adams, T. L. Adams
Crump, J. F. Rison
Carter, J. D. Stave
Hamilton, A. J. New Edinburg
Hartsell, W. L. Draughton
Johnson, S. O. Kingsland
Leali, C. Kingsland
Vance, J. W. Edinburg
Webb, Abner. Fort Smith
Wolford, W. S. Kingsland

Columbia County.

Baker, J. J. Calhoun
Cooksey, W. P. Atlanta
Hawkins, J. T. Mt. Holly
Hunt, W. J. Magnolia
Longino, H. A. Magnolia
Sanders, G. P. McNeil
Smith, P. M. Magnolia
Stevenson, C. H. Magnolia
Stevens, C. D. Magnolia
Twitty, Walter. Emerson
Vaughn, J. T. Emerson
Walker, J. C. Emerson

Conway County.

Bradley, A. R. Morrilton
Clark, C. D. Morrilton
Cowden, S. H. Morrilton
Edy, J. D. Blackwell
Gordon, F. Morrilton
Goatcher, A. L. Plummerville
Horton, Neal. Plummerville
Halbrook, J. F. Cleveland
Jackson, J. H. Center Ridge
Logan, B. C. Morrilton
Martin, J. S. Morrilton
Presley, W. L. Morrilton
Ringgold, G. W. Morrilton
Steele, R. J. Morrilton
Tate, A. B. Hattieville
Yates, Geo. Morrilton

Crawford County.

Blakemore, J. E. Van Buren
Bourland, O. M. Van Buren
Dibrell, M. S. Van Buren
Galloway, Q. R. Alma
King, Edgar. Manilla
Lucas, Giles. Van Buren
Morrow, J. A. Uniontown
Parchman, W. L. Van Buren
Reaves, W. R. Alma
Sharp, J. C. Alma
Whitmer, E. C. Van Buren
Wigley, J. A. Mulberry

Craighead County.

Altman, J. T. Jonesboro
Armour, C. H. Bono
Burns, J. L. Jonesboro
Campbell, G. O. Surman
Grady, W. H. Monette
Howell, J. C. Dee
Haltom, W. C. Jonesboro
Harrison, B. L. Little Rock
Jackson, W. W. Jonesboro
Lutterloh, C. M. Jonesboro
McVay, L. C. Marion
Pelton, D. A. Jonesboro
Ramsey, J. W. Jonesboro
Stroud, H. A. Jonesboro
Walker, R. F. Nettleton
Waddell, G. Jonesboro

Desha County.

Bowles, T. H. Dumas
Chesnut, C. R. Pendleton
Isom, A. Dumas
King, R. R. Walnut Lake
MacCammon, Vernon. Arkansas City
Stuart, J. M. McGehee
White, J. A. Dumas

Drew County.

Baker, J. P. Blissville
Brown, W. A. Monticello
Carroll, D. C. Tillar
Corrigan, M. B. Monticello
Collins, A. S. J. Monticello
Cotham, E. R. Monticello
Chairs, J. F. Winchester
Fletcher, G. W. Tillar
Harris, S. Wilmar
Hughes, S. D. Wilmar
Kimbro, S. O. Monticello
Pipkin, J. W. Tillar
Pope, M. Y. Monticello
Smith, R. N. Collins
Stanley, A. C. Tillar
Taylor, Ira S. Wilmar
Thompson, J. A. Dermott

Dallas County.

Atkinson, H. H. Fordyce
Harrison, F. E. Fordyce
Kelly, O. R. Carthage
March, C. J. Fordyce
Wozencraft, O. O. Holly Springs
Wozencraft, W. L. Holly Springs
Wozencraft, R. O. Pine Grove

Franklin County.

Blackburn, E. W. Ozark
Crocket, J. T. Mulberry
Douglas, Thos. Ozark
Harrod, J. C. Denning
Prewett, T. J. Denning
Rambo, W. W. Alston
Sherbourne, S. D. Ozark
Turner, H. H. Ozark
Williams, H. F. Ozark

Faulkner County.

Brown, Geo. S. Conway
Blakely, G. W. Gleason
Clark, W. I. Enders
Dickerson, G. D. Conway
Downs, Joseph H. Vilonia
DeJarnett, J. W. Guy
Greenley, D. R. B. Mayflower
Greeson, W. R. Conway
Henderson, G. L. Greenbrier
Mabry, Thos. M. Holland
Mathews, J. H. Lollie
McCullum, I. N. Conway
McMahan, J. E. Kendall
Munn, J. B. Vilonia
Thornton, E. W. Piggott
Watson, T. C. Mt. Vernon
Westerfield, J. S. Conway

Grant County.

Butler, J. L. Sheridan
 Pitman, W. G. Grape Vine
 Shaw, J. B. Sheridan
 Wallen, L. Sheridan

Greene County.

Bradsher, R. E. Marmaduke
 Bridges, Geo. Walcott
 Cothren, Thad. Paragould
 Dickson, Paul. Paragould
 Dickson, H. N. Paragould
 Fuson, C. M. Piggott
 Haley, R. J. Paragould
 Hammett, O. W. Paragould
 Hill, L. H. Greenway
 Hopkins, G. S. Paragould
 Johnson, J. W. Paragould
 Kennedy, E. L. Marmaduke
 Lamb, James. Beech Grove
 McKenzie, J. G. Paragould
 Owens, W. R. Paragould
 Phillips, W. H. St. Francis
 Scott, F. M. Paragould
 Vesser, W. W. Brighton
 Wilson, Olive. Paragould

Hot Springs-Garland.

Barry, L. H. Hot Springs
 Biggs, E. L. Hot Springs
 Biggs, Orris. Hot Springs
 Burton, O. H. Hot Springs
 Bush, J. W. Hot Springs
 Collins, H. P. Hot Springs
 Collins, S. P. Hot Springs
 Connell, W. H. Hot Springs
 Cowle, F. Hot Springs
 Chesnutt, Jas. H. Hot Springs
 Davis, R. G. Hot Springs
 Dewoody, L. C. Hot Springs
 Drake, Chas. Hot Springs
 Drake, Frank. Hot Springs
 Drennen, C. Travis. Hot Springs
 Ellis, L. R. Hot Springs
 Ellsworth, E. H. Hot Springs
 Fewkes, John. Hot Springs
 Forbes, W. O. Hot Springs
 Garnett, A. S. Hot Springs
 Greenway, G. C. Hot Springs
 Harrell, M. L. Hot Springs
 Hay, E. C. Hot Springs
 Hebert, G. A. Hot Springs
 Holland, T. E. Hot Springs
 Holland, E. D. Hot Springs
 Horner, J. S. Hot Springs
 Jels, F. W. Hot Springs
 Johns, P. W. Hot Springs
 Laws, W. V. Hot Springs
 Martin, E. H. Hot Springs
 McConnell, C. A. Hot Springs
 McLendon, J. W. Hot Springs
 Merritt, J. F. Hot Springs
 Mount, M. F. Hot Springs
 Proctor, J. M. Hot Springs
 Randolph, J. P. Hot Springs
 Robertson, J. A. Hot Springs
 Rowland, J. F. Wilsonville, Ala.
 Sanders, T. E. Hot Springs
 Shaw, A. D. Hot Springs
 Short, Z. N. Hot Springs
 Smith, J. W. Hot Springs
 Steele, S. B. Hot Springs
 Steer, S. L. Hot Springs
 Strachan, J. B. Hot Springs
 Thompson, M. G. Hot Springs
 Tribble, A. H. Hot Springs
 Vaughan, P. T. Hot Springs
 Walker, H. L. Hot Springs
 Weimer, R. Hot Springs
 Williams, A. U. Hot Springs
 Williams, F. M. Hot Springs
 Winegar, E. F. Hot Springs
 Wood, J. S. Hot Springs
 Wooten, W. T. Hot Springs

Hot Spring County.

Bramlett, E. T. Malvern
 Carroll, W. A. Saginaw
 Cox, P. C. Donaldson
 McCray, E. H. Malvern
 Moore, J. S. Malvern
 Phillips, R. Y. Malvern
 Williams, J. M. Malvern

Hempstead County.

Autry, J. R. Columbus
 B'Shears, B. L. Fulton
 Carrigan, P. B. Hope
 Darnell, H. H. Columbus
 Garrett, H. J. F. Hope

Garner, F. J. Washington
 Giles, H. R. Hope
 Gillespie, L. J. Hope
 Miller, S. A. Hope
 Saner, W. F. Little Rock
 Weaver, S. J. Fulton
 Weaver, J. H. Hope
 Waddell, J. S. Shelton

Howard-Pike County.

Cannon, W. H. Saratoga
 Daly, J. M. Nashville
 Gibson, W. M. Nashville
 Holt, J. M. Tokio
 Hopkins, J. S. Nashville
 Hutchinson, D. A. Nashville
 Rivers, J. M. Mineral Springs
 Robinson, W. S. Nashville
 Toland, W. H. Mineral Springs
 Wright, C. W. Buck Range

Jackson County.

Bell, J. F. Weldon
 Best, A. L. Newport
 Causey, G. A. Swifton
 Graham, J. S. Tuckerman
 Jamison, O. A. Tuckerman
 Jones, O. E. Newport
 Martin, C. W. Newport
 Owen, H. M. Newport
 Stayton, L. T. Tuckerman
 Stephens, G. K. Newport
 Thompson, Wm. Grand Glaize
 Walker, H. O. Newport
 Watson, E. L. Newport
 West, C. Newport
 Willis, L. E. Newport
 Wilson, W. F. Elmo

Independence County.

Bone, O. L. Cushman
 Case, J. W. Batesville
 Evans, A. W. Newark
 Evans, L. T. Barren Fork
 Gray, C. C. Cave City
 Gray, F. A. Batesville
 Hinkle, Chas. G. Batesville
 Huddleston, W. T. Sulphur Rock
 Johnson, O. J. T. Flora
 Kennerley, J. H. Batesville
 Lawrence, W. B. Batesville
 Pascoe, V. L. Newark
 Rodman, T. N. Cushman
 Rorr, R. C. Batesville
 Thialliere, A. Pleasant Plains
 Wall, W. F. Batesville
 Ward, O. T. Wolf Bayou
 Wyatt, W. A. Rosie

Johnson County.

Allen, C. S. Harmony
 Blakely, Thos. B. Coal Hill
 Carey, Angier B. Knoxville
 Cook, L. A. Clarksville
 Cowan, J. M. Lamar
 Fair, E. N. Spadra
 Graves, S. M. Payne
 Gray, L. C. Clarksville
 Horner, J. R. Spadra
 Huddleston, G. D. Lamar
 Hunt, E. O. Smeadley
 Hunt, Earle. Clarksville
 Hunt, Wm. R. Clarksville
 Kolb, J. S. Clarksville
 Love, J. G. Hartman
 Mitchell, Jno. W. Clarksville
 Murphy, J. M. Hagarville
 Ogilvie, Jas. W. Harmony
 Patterson, C. H. Ozark
 Robinson, Chas. E. Clarksville
 Smith, W. F. Clarksville
 Stewart, J. L. Spadra

Jefferson County.

Allen, J. A. Pine Bluff
 Blackwell, O. G. Pine Bluff
 Blankenship, W. H. Pine Bluff
 Breathwit, Wm. Pine Bluff
 Brunson, Asa. Memphis, Tenn.
 Caruthers, C. K., Jr. Pine Bluff
 Clark, O. W. Pine Bluff
 Crutcher, Wm. Pine Bluff
 Duckworth, G. M. Pine Bluff
 Ferguson, J. P. Sweden
 Galligher, B. H. Pine Bluff
 Glover, C. A. Pine Bluff
 Hankinson, O. C. Pine Bluff
 Jenkins, J. S. Pine Bluff
 John, J. W. Pine Bluff
 John, M. C. Sweden

Jordan, A. C. Pine Bluff
 Kite, N. S. Pine Bluff
 Kite, W. O. Pine Bluff
 Lowe, W. T. Pine Bluff
 Luck, B. D. Pine Bluff
 Orto, Z. Pine Bluff
 Scales, J. W. Pine Bluff
 Shelton, R. P. Wabeseka
 Smith, J. S. Pine Bluff
 Stewart, W. S. Pine Bluff
 Thompson, A. G. Pine Bluff
 Troupe, A. W. Pine Bluff
 Williams, H. E. Pine Bluff
 Withers, J. W. Pine Bluff
 Woodul, T. W. Pine Bluff
 Wright, C. E. Sweden

Lafayette County.

Baker, F. E. Stamps
 Bullock, W. A. Stamps
 Bright, D. W. Lewisville
 Magee, L. F. Frostville
 McKnight, J. F. Walnut Hill
 Youmans, F. W. Lewisville

Lawrence County.

Ball, C. C. Ravendon
 Coffman, J. W. Black Rock
 Culp, C. W. Mammoth Spring
 Crigler, J. R. Walnut Ridge
 Guthrie, T. C. Jessup
 Hatcher, Wright. Imboden
 Henderson, A. G. Imboden
 Hughes, J. C. Walnut Ridge
 Land, J. C. Walnut Ridge
 McCarroll, H. R. Walnut Ridge
 Morris, J. W. Denton
 Neece, T. C. Walnut Ridge
 Peacock, A. L. Lynn
 Poindexter, J. C. Imboden
 Ponder, E. T. Walnut Ridge
 Pringle, J. E. Hoxie
 Robinson, W. J. Portia
 Smith, W. A. Walnut Ridge
 Stephens, J. M. Clover Bend
 Warren, G. A. Black Rock
 Woodyard, R. R. Black Rock

Lee County.

Bean, W. B. Marianna
 Beatty, W. S. Vineyard
 Blue, J. B. Parkin
 Carter, D. C. Marianna
 Chaffin, C. W. Moro
 Darnell, E. Seelig
 Foster, G. F. La Grange
 Hare, T. S. Vanndale
 Longley, W. W. Marianna
 McClendon, A. A. Marianna
 Russwurm, C. S. Oak Forest
 Wall, E. D. Park Place
 Williamson, O. L. Marianna
 Wilsford, A. L. Moro
 White, Harry. Rondo

Lincoln County.

Dixon, C. W. Douglass
 Duckworth, F. L. Gould
 Isom, A. Gould
 Johns, J. F. Grady
 Kimbro, W. C. Tyro
 McClain, J. K. Star City
 Price, C. C. Douglas
 Traver, B. F. Star City
 Watts, S. D. Tyro

Little River County.

Shirey, Wesley L. Foreman
 Vaughan, W. E. Richmond
 York, Wm. Ashdown

Logan County.

Armstrong, N. E. Booneville
 Baskerville, W. F. Booneville
 Bennett, W. H. Paris
 Fletcher, T. M. Paris
 Foster, M. E. Paris
 Harkins, R. A. Ratcliff
 Hederick, A. R. Booneville
 Scott, Earl E. Magazine
 Hooper, W. F. Booneville
 Lipe, E. N. Blaine
 McConnell, S. P. Booneville
 Smith, J. J. Paris
 Shibley, J. S. Booneville
 Smith, A. M. Paris
 Thompson, R. C. Spielserville

Lonoke County.

Abbott, C. C.	Pettus
Beatty, S. S.	England
Benton, T. E.	Lonoke
Brewer, Jno. J.	Kerr
Bowers, A. L.	Keo
Callahan, E. A.	Carlisle
Childers, J. M.	Wattensaw
Chenault, J. C.	England
Corn, F. A.	Lonoke
Cunning, Jno. R.	Lonoke
Fly, T. M.	Wampole
Murchison, A. J.	England
Niven, J. D.	Tucker
Southall, S. A.	Lonoke
Thihault, H.	Scott
Turner, W. S.	Pettus
Thompson, W. A.	Cahot
Tankersley, T. J.	Tomherlin
Ward, O. D.	England
White, L.	Jebh
McCrae, W. M.	Scott

Miller County.

Beck, R. L.	Texarkana
Dale, N. R.	Texarkana
Eckle, G. M.	Texarkana
Fuller, Earl.	Texarkana
Grant, R. L.	Texarkana
Hunt, Preston	Texarkana
Kelly, K. M.	Texarkana
Kittrell, T. F.	Texarkana
Kosminsky, L. J.	Texarkana
Lightfoot, J. A.	Texarkana
Lee, A. G.	Texarkana
McCurry, W. T.	Texarkana
Mann, R. H. T.	Texarkana
Sheppard, Paul.	Texarkana
Smylie, H. H.	Texarkana
Smith, C. A.	Texarkana
Webster, H. R.	Texarkana

Mississippi County.

Borum, W. H.	Blytheville
Brewer, Thos. G.	Osceola
Crawford, H. F.	Wilson
Campbell, J. H.	Bardstown
Craig, J. F.	Wilson
Caldwell, C. A.	Blytheville
Dunavant, H. C.	Osceola
Harwell, C. H.	Osceola
Howton, O.	Osceola
Hudson, T. F.	Luxora
Harhart, J. D.	Marie
Lowry, S. A.	Luxora
Lundsford, C. B.	Chickasawha
Martin, S. P.	Blytheville
Nall, R. P.	Armored
Noak, P. G.	Bardstown
Parker, G. W.	Blytheville
Paris, W. J. J.	Blytheville
Prewitt, J. C.	Osceola
Rohinson, F. A.	Barfield
Sanders, J. F.	Blytheville
Stevens, C. C.	Blytheville
Sanders, Roht. H.	Manilla
Stewart, O. R.	Blytheville
Turner, W. E.	Butler
Webb, C. F.	Burdette

Monroe County.

Bradley, W. T.	Monroe
Gilhrich, A. H.	Clarendon
Murphy, F. T.	Brinkley
Murphy, N. E.	Clarendon
McKnight, E. D.	Brinkley
Miller, J. C.	Blackston
Stout, J. T.	Brinkley
Sylar, T. B.	Holly Grove
Thomas, P. E.	Clarendon
Terry, P. E.	Brinkley

Ouachita County.

Byrd, E. J.	Millville
Early, C. S.	Camden
Hudson, G. W.	Camden
Henry H. H.	Eagle Mills
Henry, J. T.	Eagle Mills
Haltom, N. F.	Buena Vista
Mahan, J. M.	Bearden
Meek, J. W.	Camden
Morgan, C. M.	Camden
McGill, A. G.	Little Rock
Newton, W. L.	Camden
Powell, B. V.	Lester
Purifoy, W. A.	Chidester
Rinehart, J. S.	Camden
Rushing, J. L.	Chidester
Thompson, J. S.	Stephens
Word, N. S.	Camden

Nevada County.

Arnold, W. E.	Prescott
Buchanan, A. S.	Prescott
Dickinson, W. H.	Emmett
Guthrie, Adam.	Prescott
Hesterly, S. J.	Prescott
Marsh, G. O.	Prescott
Rice, W. W.	Prescott

Perry County.

Blackwell, W. S.	Bigelow
Howard, M. E.	Perryville
Mathews, C. E.	Alpine
Palmer, J. T.	Bigelow
Rieff, W. L.	Perryville
Wadley, L. D.	Bigelow

Polk County.

Connally, D. W.	Rocky
Davis, J. R.	Mena
Izard, John.	Mena
Lee, F. A.	Mena
Parks, W. P.	Mena
Philpot, W. W.	Egger
Riley, H. C.	Cove
Sanford, Chas.	Mena
Vandiver, W. C.	Mena
Watkins, P. R.	Mena

Phillips County.

Altman, G. G.	Helena
Bean, J. W.	Marvell
Brown, E. T.	Barton
Bruce, W. B.	Trenton
Cox, A. W.	Helena
Cox, A. E.	Helena
Deadrick, W. H.	Helena
Ellis, J. B.	Helena
Fink, M.	Helena
Hall, L.	Turner
Hornor, A. A.	Helena
King, W. C.	Helena
Penn, G. E.	Marvell
Price, J. W.	Marvell
Rightor, H. H.	Helena
Russwurm, W. C.	Helena
Smythe, D. L.	Fair
Thompson, H. M.	Marvell
Trotter, C. H.	Helena

Pope County.

Britt, J. B.	Gum Log
Berryman, L. T.	Russellville
Campbell, J. M.	Russellville
Drummond, R. M.	Russellville
Ferguson, J. B.	Russellville
Hays, J. F.	Russellville
Montgomery, W. A.	Atkins
Ross, C. J.	Caglesville
Stanford, I. M.	Hester

Prairie County.

Dickinson, Putnam.	Des Arc
Gillilan, J. G.	Des Arc
Gill, J. F.	Des Arc
Hipolite, W. W.	Devall's Bluff
Hipolite, F. A.	Devall's Bluff
Lynn, J. R.	Hazen
Parker, Jas.	Devall's Bluff
Pool, Wm. B.	Biscoe
Rohinson, F. C.	Hazen
Rhodes, H. T.	Hazen
Woodworth, L. P.	Devall's Bluff
Wilks, E. H.	Des Arc

Randolph County.

Brown, J. W.	Foster
Brumley, G. W.	Biggers
Hull, H. B.	Ravenden Springs
Hall, L. H.	Pocahontas
Hamil, W. E.	Pocahontas
Hughes, W. E.	Pocahontas
Johnson, J. J.	Biggers
Johnson, T. Z.	Holmes
Loftis, J. R.	Maynard
Pickett, B. E.	Ravenden Springs
Pringle, C. E.	Pocahontas
Ruff, H. E.	Heher
Sheid, Carl	Pocahontas
Shaver, I. M.	Biggers
Sheriff, J. P.	Supply
Throgmorton, H. L.	Pocahontas

Sebastian County.

Amis, J. C.	Fort Smith
Brooksher, W. R.	Fort Smith
Buckley, J. Homer.	Fort Smith

Bailey, W. W.	Fort Smith
Bradley, J. D.	Lavaca
Brooksher, S. L.	Fort Smith
Cooper, St. Cloud.	Fort Smith
Duncan, L. D.	Waldron
Dorente, D. R.	Fort Smith
Eherle, J. G.	Fort Smith
Epler, G. E.	Fort Smith
Foltz, Jas. A.	Fort Smith
Foster, A. H.	Fort Smith
Gardner, D. M.	Fort Smith
Green, C. R.	Fort Smith
Grant, J. R.	Fort Smith
Garrison, C. W.	Fort Smith
Green, C. R.	Fort Smith
Hardin, I. E.	Fort Smith
Harr, J. T.	Midland
Herrod, R. F.	Jenny Lind
Hynes, Geo. E.	Fort Smith
Harrod, J. T.	Barling
Hall, C. S.	Fort Smith
Holt, C. S.	Fort Smith
Johnson, D. T.	Fort Smith
Johnson, Hugh.	Bonanza
Jones, E. B.	Hartford
King, H. C.	Fort Smith
King, J. M.	Fort Smith
Looney, J. J. W.	Fort Smith
Leming, I. K.	Waldron
McKelvey, A. A.	Greenwood
McLoughlin, J. A.	Fort Smith
McGinty, J. R.	Fort Smith
Moulton, H.	Fort Smith
Myers, E. C.	Fort Smith
Neal, Wm. J.	Fort Smith
Ozment, S. J.	Fort Smith
Perry, J. F.	Bonanza
Perry, M. L.	Greenwood
Pate, C. M.	Fort Smith
Ryan, I. A.	Fort Smith
Routh, H. P.	Hartford
Riddler, P. A.	Fort Smith
Southard, J. D.	Fort Smith
Sorrells, J. W.	Mansfield
Sims, D. A.	Fort Smith
Taylor, J. M.	Fort Smith
Thomas, L. M.	Fort Smith
Wood, Clark.	Fort Smith
Woods, G. G.	Huntington
Weems, H.	Fort Smith
Wilder, A. W.	Fort Smith
Wallace, J. M.	Fort Smith
Ware, Bert E.	Jenny Lind

Searcy County.

Brennan, J. T.	Leslie
Cotton, J. O.	Leslie
Daniel, S. G.	Marshall
Henley, J. A.	St. Joe
Hollabaugh, C. B.	Marshall
Rogers, Wm. F.	St. Joe
Russell, R. L.	Leslie
Smith, Ira.	Gilbert
Wood, E. W.	Marshall

Saline County.

Fisher, D. N.	Benton
Gann, I. Elwell.	Benton
Graham, A. J.	Little Rock
Kelley, Warren.	Benton
Melton, J. W.	Alum
Morris, W. E.	Bauxite
Phillips, J. M.	Benton
Prickett, C.	Traskwood
Steed, C. J.	Alexander
Scott, C.	Haskell
Walton, J. W.	Benton

Sevier County.

Archer, C. A.	De Queen
Beauchamp, J. M.	De Queen
Clingen, A. J.	Ben Lomond
Dickson, G. L.	Horatio
Hendrik, B. E.	De Queen
Hendricks, B. E.	Gillham
Hammonds, O. O.	De Queen
Hopson, E. W.	Lockeshurg
Hopkins, R. I.	De Queen
Henry, G. A.	De Queen
Isbell, F. T.	Horatio
Johnson, R. J.	De Queen
Kolh, H. J.	Provo
Kitchens, C. E.	Lockeshurg
Maxwell, D. A.	Lockeshurg
Norwood, M. L.	Lockeshurg
Phillips, P. H.	Horatio
Riser, F. L.	De Queen
Thompson, C. E.	Page, Okla.
Wisdom, R. E.	De Queen

Sharp County.

Gray, C. R. Sidney
 Gray, E. M. Poughkeepsie
 Gray, A. F. Hardy
 Johnston, Wm. Hardy
 Woos, J. T. Evening Shade

St. Francis County.

Alley W. H. Forrest City
 Bogart, J. A. Forrest City
 Bogart, H. D. Wheatley
 Ferrell, A. B. Widener
 Hare, J. L. Wynne
 Merritt, L. H. Forrest City
 McCormack, G. A. Goodwin
 McDougal, J. F. Forrest City
 Reynolds, J. C. Colt
 Rush, J. O. Forrest City

Union County.

Hilton, R. A. El Dorado
 Harper, W. L. Junction City
 Irby, Frank L. Shuler
 Johnson, J. B. Champagnolle
 Mahoney, F. E. Huttig
 Mayfield, A. M. Shuler
 McGraw, J. J. El Dorado
 Miles, W. L. Randolph, La.
 Moore, J. A. Lisbon
 Murphy, Geo. W. Strong
 Murphy, H. A. El Dorado
 Niehuss, H. H. Wesson
 Pettus, C. S. El Dorado
 Purifoy, L. L. El Dorado
 Proctor F. D. Junction City
 Rowland, R. E. Huttig
 Sellers, Wm. Junction City
 Sheppard, J. M. El Dorado
 Stedman, S. S. Smackover
 Stewart, C. A. Three Creeks
 Speers Caledonia
 Thompson, S. E. El Dorado
 Thurman, J. W. Lisbon
 Vines, Frank. Strong
 Wharton, J. B. El Dorado

Washington County.

Bean, J. L. Cane Hill
 Perkins, C. F. Springdale
 Blackburn, T. W. Cane Hill
 Brewster, J. H. Prairie Grove
 Canon, J. S. West Fork
 Christian, O. Johnson
 Christian, D. Springdale
 Dinwiddie, R. R. Fayetteville
 Ellis, E. F. Fayetteville
 Fergus, J. W. Elm Springs
 Gregg, A. S. Fayetteville
 Hardin, Nina V. Fayetteville
 Hathcock, P. L. Lincoln
 Liniger, Phoebe. Springdale

Mack, M. H. Prairie Grove
 Martin, J. E. Springdale
 Miller, Otey. Fayetteville
 McCormack, E. G. Prairie Grove
 Paddock, C. B. Fayetteville
 Pittman, Jas. Cincinnati
 Southworth, Jas. R. Fayetteville
 Sumners, D. C. Elm Springs
 Welch, W. B. Fayetteville
 Wilson, E. E. Rhea
 Wood, H. D. Fayetteville
 Yates, W. N. Fayetteville
 Young, John Springdale
 Young, F. B. Springdale

Woodruff County.

Biles, L. E. Augusta
 Bradford, T. B. Cotton Plant
 Brewer, E. F. Augusta
 Gephart, R. T. Cotton Plant
 Fletcher, B. A. Augusta
 McKnight, C. H. Cotton Plant
 Osborne, J. M. Howell
 Patterson, R. Q. Augusta
 Puckett, O. E. Augusta
 Smith, R. N. Augusta
 Utley, V. S. Augusta

Yell County.

Ballinger, W. E. Plainview
 Crum, J. H. Ola
 Davis, G. C. Birta
 Gillum, A. D. Rover
 George, J. N. Birta
 Grace, John Belleville
 Harkness, J. H. Belleville
 Jackson, N. H. Pontoon
 Linzey, J. R. Dardanelle
 Love, L. E. Dardanelle
 Linzy, C. B. Plainview
 McKenzie, A. H. Dardanelle
 Miller, S. E. Dardanelle
 Worsham, M. A. Centerville
 Wilson, E. L. Fowler

White-Cleburne County.

Barker, E. R. Center Hill
 Clark, W. A. Bald Knob
 Cleveland, J. C. Bald Knob
 Edwards, D. H. El Paso
 Grammar, J. B. Searcy
 Harrison, A. G. Kensett
 Hassell, J. W. Searcy
 Hassell, A. B. Rose Bud
 Jelks, J. M. Searcy
 Lovell, J. N. Bradford
 Majors, J. R. Center Hill
 Miller W. J. Griffithville
 Moore, L. E. Searcy
 Moncrief, J. J. Beebe
 Tapscott, S. T. Searcy
 Woodyard, W. H. L. Judsonia

Pulaski County.

Arkebauer, C. A. Little Rock
 Bathurst, Wm. R. Little Rock
 Bailey, W. E. Little Rock
 Bentley, E. Little Rock
 Bentley, C. E. Little Rock
 Bledsoe, E. P. Little Rock
 Cantrell, G. M. D. Little Rock
 Carmichael, A. L. Little Rock
 Caldwell, Robert. Little Rock
 Chandler, Wm. J. South Orange, N. J.
 Davis, E. N. Little Rock
 Davis, E. N. Little Rock
 Dibrell, E. R. Little Rock
 Dibrell, J. L. Little Rock
 Dooley, J. B. Little Rock
 Dunaway, W. C. Little Rock
 French, F. L. Little Rock
 Flinn, B. W. Little Rock
 Gibson, L. P. Little Rock
 Gray, Oscar. Little Rock
 Harris, A. E. Little Rock
 Hardeaman, D. R. Little Rock
 Holiman, J. E. T. Little Rock
 Hodges, E. E. Little Rock
 Hodges, T. E. Little Rock
 Jewell, I. H. Little Rock
 Judd, O. K. Little Rock
 Kirby, H. H. Little Rock
 Lenow, Jas. H. Little Rock
 Lindsey, R. W. Little Rock
 McLain, M. D. Little Rock
 McCaskill, M. E. Little Rock
 McNeil, Martin. Little Rock
 Meriwether, C. P. Little Rock
 Meek, E. Little Rock
 North, A. Little Rock
 Ogden, M. D. Little Rock
 Reagan, L. D. Little Rock
 Runyan, J. P. Little Rock
 Saxon, R. L. Little Rock
 Scott, C. V. Little Rock
 Shinault, C. R. Little Rock
 Sheppard, J. P. Little Rock
 Smith, Morgan. Little Rock
 Snodgrass, W. A. Little Rock
 Stinson, H. C. Little Rock
 Stover, A. R. Little Rock
 Stewart, S. S. Little Rock
 Sweatland, A. E. Little Rock
 Vaughan, Milton. Little Rock
 Vinsonhaler, F. Little Rock
 Walt, D. C. Little Rock
 Watkins, J. G. Little Rock
 Watkins, Anderson. Little Rock
 Wayne, J. R. Little Rock
 Witt, C. E. Little Rock
 Zell, A. M. Little Rock

Howell, A. R. Argenta
 Barlow, M. J. Argenta
 Prothro, H. Argenta
 Reed, C. C. Hensley
 Stephenson, C. C. Los Angeles, Cal.
 Street, H. N. Argenta

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Original Articles.

CHOLELITHIASIS.*

Frank B. Young, M. D., Springdale.

As it is manifestly impossible to cover the whole subject of gallstones in the time allotted to me, I intend to stress mainly those parts of the subject of the most interest.

Etiology—Gallstones are due to infection and incomplete drainage of the bile passages. The most common source of infection is typhoid fever, though appendicitis, dysentery, or any other infection of the intestine may invade the bile passages, either by direct extension from the duodenum through the bile ducts or by way of the portal vein. Simple catarrhal cholecystitis may be the beginning infection. The bile has been considered antiseptic, but when from any cause its free flow is stopped it quickly proves a fertile culture medium.

Symptoms—Gallstones are often said to exist in many cases without causing symptoms, but late investigators are almost unanimously of the opinion that this is a mistaken idea. It is questionable if anyone ever has gallstones without a deleterious effect on the general health. In the so-called "latent" cases they give rise to repeated attacks of indigestion, with all its train of ills. The classical symptoms, severe pain, fever and jaundice are symptoms of complications, not of gallstones alone.

Diagnosis—For purposes of easy, safe and satisfactory treatment, it is vitally essential that the diagnosis be made early, before serious complications develop. At this stage the

symptoms are referred almost exclusively to the stomach, sour stomach, pain, weight and burning in the epigastrium after eating, often followed by belching or vomiting with relief. Recurrent attacks of sick headache should always cause us to make a thorough examination for evidences of gallstones. On physical examination the point of greatest tenderness is found under the lower ribs on the right side, especially well marked on deep palpation with full inspiration. If with this condition we have the history of more or less colic, even though very mild, we need not hesitate to make a diagnosis of gallstones. Even in the absence of any such history it is usually easy to make a positive diagnosis.

Diagnosis, as to Position of the Stones—It is always well to try to discover the position of the stone before opening the abdomen, though in this, as in all other abdominal conditions, we must be fully prepared for surprises on laparotomy. Stones in the gall bladder are almost constantly accompanied by a low-grade cholecystitis, causing the stomach symptoms and tenderness under the ribs referred to. In the cystic duct, in addition, are more intense symptoms of the same character—pain, sometimes mild, sometimes excruciating; swelling and dilatation of the gall bladder, so that it may become distinctly palpable, even leading to a mistaken diagnosis of floating kidney; the bile present in the gall bladder is absorbed and reëxcreted through the kidneys, so bile salts may be found in the urine. If the stone drops back into the gall bladder the pain ends and the patient is back in his old condition of "stomach trouble" till the next attack of colic. But if the stone becomes thoroughly engaged in the cystic duct it may

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cause an empyema of the gall bladder. The gall bladder may be largely distended with pus, phlegmonous, or even gangrenous, and still give rise to but little constitutional trouble on account of its poor lymphatic supply. The patient may be almost in the grave, and still not be apparently sick. After the gall bladder has passed through a number of inflammatory attacks it very often contracts on the stones, and so remains in a constantly slightly inflamed condition. This is a dangerous condition, as the stones may ulcerate through the wall and cause a fatal peritonitis, or by continued irritation cause cancer.

Should the stone reach the common duct, the classical symptoms of gallstones ensue, more severe pain, jaundice, fever and prostration. The fever may run very high and cause much constitutional disturbance, as this region is well supplied with lymphatics. The jaundice is caused by obstruction to the flow of bile. The stone may pass through the duct and into the duodenum with relief of symptoms, or, much more frequently, a dilatation of the duct may give room for the bile to pass around the stone with partial relief of the symptoms. When such dilatation takes place the stone may again act as a ball valve, causing an interrupted jaundice. When complete obstruction of the common duct occurs there is intense jaundice, severe pain, clay-colored stools, bile-laden urine, septic fever and great prostration. If relief is not soon obtained by passage of the stone, dilatation of the duct, or operation, death ensues from sepsis or interference with the liver functions.

Differential diagnosis must be made between catarrhal cholecystitis, ulcer of the stomach or duodenum, appendicitis, neuralgia of the stomach and cancer of the bile passages.

Catarrhal cholecystitis is easily distinguished by the history of the patient.

Ulcer of the Stomach or Duodenum—By the history of pain one or two hours after taking food; absence of tenderness on deep palpation under the right ribs, but more toward the midline; burning and slight pain when the stomach is empty, relieved by a small amount of food; the presence of undigested food in the stomach eight to twelve hours after a meal, and an increase of hydrochloric acid secretion.

Neuralgia of the stomach may be of frequent occurrence, but I have never yet seen a case. All cases coming under my obser-

vation that had been diagnosed as neuralgia of the stomach have proven to be gallstones, ulcer, cancer, or some other gross lesion. In fact, the diagnosis neuralgia in any case is simply an admission of our ignorance of the true pathology of the trouble.

Cancer—By the more constant pain; more steady and rapid decline, with loss of weight; more intense, continuous and progressive jaundice, and the absence of hydrochloric and presence of lactic acid in the stomach.

Complications—A long and serious train of complications may develop in any case of gallstones, at any time. Among these are the following: Intestinal obstruction from peritonitis, volvulus adhesions or a large stone; tendency to hemorrhage from continued jaundice; peritonitis, either local or general; dilatation of the stomach from adhesions about the pylorus or duodenum; ulceration and fistula communicating with the gut; stricture of the duct from cicatricial contraction; abscess of the liver from ascending infection; abscess of the abdominal wall, sometimes with a fistula communicating with the bile passages; empyema or gangrene of the gall bladder; septic cholangitis; general septicemia, pyelitis, from rupture of the gall bladder into the pelvis of the right kidney; subphrenic abscess; septic pleurisy and pneumonia; suppurative, gangrenous or chronic interstitial pancreatitis; cirrhosis of the liver; appendicitis; chronic nephritis, from continued irritation of bile excretion through the kidneys; diabetes due to pancreatitis; carcinoma of the bile passages or the neighboring organs.

Most of these complications are directly traceable to an extension of the septic process beginning in the gall bladder. Cancer is due to the continued irritation by the stones. Large stones are never passed through the ducts, but are passed by a spontaneous cholecystenterostomy, the gall bladder becoming adherent to some part of the gut—usually the colon—and the stone ulcerating through. This sometimes results in a spontaneous cure, but more often the adhesions so formed leave the patient in a worse condition than before.

Treatment—I think at the present time that few physicians believe there is any efficiency whatever in medical treatment of gallstones. A thousand and one remedies have been lauded, but after giving many of them a thorough trial I am convinced that not a single one is in any sense curative,

and very seldom even palliative. The fact that the disease has a tendency to become latent at times, not causing a distressing colic, is money to the quack and hope to the legitimate practitioner. But even in these cases the digestive disturbance remains and the danger of complications is not lessened.

For the relief of attacks of gallstone colic morphin, hypodermically, is always the first thought, and may be required in immense doses. However, if we take our cue from nature, and remember that the attack usually ends with free vomiting, we have a better method. The preferable method of emptying the stomach is by the tube, but, not having that at hand, a hypodermic of apomorphin will have the desired effect. I have often relieved attacks of gallstone colic by having my patient drink a large amount of water and then injecting apomorphin hydrochlorate, one-tenth gr., thus thoroughly washing out the stomach. Of course there are cases in which this means should not be employed. The contractions of the bile passages are synchronous with the peristalsis of the stomach, and with the stomach completely at rest these contractions cease immediately. Stomach rest can be obtained only by getting it empty and keeping it so. Hence, it is better that nothing—not even water—be taken into the stomach for some hours after an attack.

Surgical Treatment—First, the contraindications to operation are: Presence of colic, severe jaundice, diabetes, cancer; purpuric or hemorrhagic spots, or patient prostrated by long and severe attacks. At least, should it become absolutely necessary to establish drainage, do that and nothing more until the patient's condition is improved. Get in and get out. To avoid the necessity of operating on these desperate cases, make an early diagnosis and operate before these dangerous complications develop.

Where the gall bladder alone is involved, a cholecystostomy is all that is necessary. Where the stone has been in the cystic duct long enough to seriously damage it, so that a cicatricial stricture will develop later, a cholecystectomy had better be done at the first operation, thus saving a secondary operation. Where the integrity of the gall bladder has been destroyed by repeated inflammations, and it is contracted tightly on the stones, a cholecystectomy is indicated. While the gall bladder is claimed by some

to be a valuable mucus-secreting organ, this fact may be overlooked when in doubt as to its power of repair, as the patient will do equally as well without a gall bladder as with one, and much better than with a diseased one. However, we must not do a cholecystectomy in the presence of common duct trouble, as the gall bladder may be the only way of establishing a communication with the gut, should late obstruction develop.

When the stone is in the common duct it should be milked back into the gall bladder or on into the gut, or, this procedure proving impossible, removed by incision of the duct and the gall bladder drained. Where the common duct is permanently occluded by an injury, stricture or malignant growth, or the pancreas is deeply involved, a cholecystenterostomy is demanded. When the appendix is involved, it may usually be removed readily through the ordinary gall bladder incision. Raising the shoulders with a roll will give one to two inches more working space. The fundamental principle of all gall bladder surgery is drainage, and the necessary steps must be taken to secure it. There is probably no major surgical procedure that is simpler than a cholecystostomy on a large, nonadherent gall bladder, and, on the other hand, there is no condition requiring a more profound surgical knowledge and more skilled technic than many conditions we encounter in this region. And as it is impossible to know absolutely beforehand what we will find, one had better let this field alone unless he invades it fully prepared to deal with any condition that may arise.

The following cases each illustrate a point I have made in this paper:

Mrs. S., age 42, came to me complaining of indigestion, soreness over the liver, loss of weight due to poor appetite, but at no time had had any colic. Said she had been treated for years by various physicians without result. I diagnosed gallstones and advised operation. This was deferred about three months, and during that time chronic appendicitis developed. She then consented to operation, and the usual incision, high up in the right rectus, was made, and the appendix, free from adhesions, but swollen and full of pus, was drawn up and removed. The gall bladder was found free from adhesions, inflamed, and tightly contracted on a number of stones, one of which was ulcerated nearly through, necessitating a cholecystectomy. There were five large formed stones,

and the rest of the gall bladder was filled with inspissated bile, holding all in one firm mass, thus accounting for the absence of colic. Had the stone ulcerated through, in the absence of adhesions, it would have set up a quickly fatal peritonitis. This case also illustrates the fact that jaundice plays no part in the diagnosis of gallstones.

Mr. M., age thirty-six, suffered with gallstone colic at intervals for eight years before coming under my observation. He was at once advised to submit to operation, but refused. Later he developed appendicitis, which relighted every time he attempted to move about any. After suffering with both troubles for three or four months he consented to operation, though his general condition was very bad. At operation the appendix was removed first through the gall bladder incision, the gall bladder was found much shrunken, inflamed and full of stones, and two small stones in the cystic duct. The gall bladder was removed and the wound closed, with drainage. He came off the table in bad condition, but partially rallied, only to collapse again, and died in five hours after the operation. This case again illustrates the wisdom of early operation, as this gentleman deferred action till so late he could not withstand the shock.

Mrs. J., age fifty-four, had suffered with recurrent attacks of gallstone colic. As she had a severe interstitial nephritis at the time she came under my care, operation was not advised. At postmortem a large, smooth gallstone was found in the ampulla of Vater, where it had evidently lain for years, forming a ball valve. The common duct was much dilated and very thin. There was also chronic interstitial pancreatitis and nephritis, again illustrating the necessity of early operation, before these desperate complications develop.

Mrs. G., age twenty-five; recurrent attacks of gallstone colic for several years; the last one very severe, the jaundice lasting more than two weeks. Two months later a severe, quickly fatal diabetes mellitus, evidently from the involvement of the pancreas by extension of the common duct trouble.

Mr. U., age sixty, had his first attack of gallstone colic eighteen years ago, and it has recurred at intervals of one to six weeks

ever since, keeping him in bed for two to ten days at a time. He has steadily refused operation, but takes faithfully of any medicine prescribed, thus consuming an immense amount of olive oil, sodium phosphate, sodium succinate, oleic acid—in fact, everything that a dozen or more physicians could think of—and he still has his attacks every two to six weeks, and in eighteen years has never been as long as three months without pain. This fully illustrates the immense value of medical treatment of this condition.

Mr. L., age fifty-five, always thin and anemic, gradually developed a deep jaundice, intolerant stomach, rapid depression, no acute pain, but constant tenderness in the right epigastrium. History of recurrent attacks of gallstone colic about twenty-five years before. Diagnosis, cancer, confirmed by autopsy. Gall bladder found tightly contracted over two very large stones.

Mrs. P., age forty, for several years had attacks of gallstone colic, lasting but a short time, and fairly easy to relieve. Cholecystectomy was done by Mayo. A year later a stricture of the cystic duct developed, necessitating a cholecystectomy, which was done by the same surgeon, and since which she has enjoyed good health. This case illustrates the fact that when in doubt it is better to remove the gall bladder, other conditions making such procedure possible.

These cases are reported simply to illustrate certain points, especially the necessity of early operation and the great danger of delay in any case. We are now passing through the same stage in gall bladder surgery that we passed in appendicitis some five to ten years ago. Surely no well informed practitioner now claims any efficacy in medical treatment of appendicitis, but all advise early operation. In gallstones the same should be true; when the diagnosis is made it should carry with it the call for operation, unless such procedure is distinctly contraindicated. I think this position cannot be gainsaid by anyone who fully comprehends the ease, safety and effectiveness of early operation and the vast train of complications and sequelæ that almost inevitably follow without operation,

DYSENTERY IN CHILDREN.*

F. T. Isbell, M. D., Horatio.

I shall not, as chairman of the Section on Diseases of Children, attempt to review the literature as a whole and point out the advancement made in diagnosis and treatment of the diseases of infancy and childhood, because I feel that it is best to choose one subject and review it in the light of recent advancements. After diligent research I find no disease so common and universal as dysentery, and none where greater advancement has been made than in the etiology, pathology and treatment of dysentery.

To the practitioner no disease is more trying than dysentery of infancy and childhood. In recent years considerable advance has been made in the conception of the disease, and much that was cloudy and obscure has been cleared. The greatest advance has been along etiological and pathological lines, although improvement in the treatment of this condition is evident.

Until 1898 the causative factors here at work were thought to be improper feeding, poor hygienic surroundings, climatic influences, etc., and cases were viewed purely from this standpoint; but in the summer of 1898 a Japanese doctor identified a bacillus in the dejecta of dysenteric patients during an epidemic in Japan. Flexner, in 1900, succeeded in isolating a group of bacilli, or closely allied organisms, capable of producing dysentery. In 1903 the Rockefeller Institute undertook to determine the part played by the Shiga bacillus in the diarrhea and dysentery of infants and children, and as a result of these investigations found this bacillus in practically all cases with blood and mucus in the stools. So the investigators arrived at the conclusion that all cases of dysentery are due to a specific microorganism, as they found cases where the feeding, hygienic surroundings and climatic conditions were faultless.

The most frequent way of infection is through drinking water and milk, but not uncommon through eating raw fruits and vegetables. This is termed improper feeding, in that it brings about an attack of indigestion and prepares the way for the organisms to enter the circulation by the dam-

age done to the epithelium and the lymphatic glands.

Jacobs gives us the best and most complete pathological description of dysentery of any of our writers. He, like the others, divides the disease into three heads—catarrhal, follicular, and membranous. The most frequent variety is the catarrhal, and is the type usually met with in children. In all cases of dysentery in children the characteristic lesions are, as a rule, limited to the colon and lower ileum. In one-half of the cases the colon alone is involved, and in the other half, the colon and lower two or three feet of the ileum.

In the first, or catarrhal form, the stomach is sore or congested, and contains undigested food and mucus. The intestines contain the characteristic actions, green or yellow-brown in color, containing mucus in abundance, and perhaps some blood. There is hyperemia of the mucosa, infiltration of round cells, swellings of the solitary follicles, and the lymphatic glands are enlarged. Microscopically, we find loss of superficial epithelium and that of the tubular glands. The goblet cells are distended with mucus and degenerated. There exists an infiltration of round cells, which varies in intensity according to the severity of the trouble. It may be limited to the mucosa, but may extend even to the muscular layer of the intestine. The capillaries are distended and extravasations are quite constant. In the severest forms of catarrhal dysentery superficial ulceration takes place. The ulcers are found through the colon, but never extend beyond the mucosa. They are small and circular, but a number of them may coalesce and form large ulcers two or three inches in diameter.

As a rule the second class, or follicular dysentery, is secondary, following an attack of catarrhal dysentery, measles, malnutrition, typhoid fever, etc., but can be primary. Its characteristic feature is the presence of ulcers, found usually only in the colon, but occasionally in the lower part of the ileum and colon. This condition usually follows repeated attacks of gastroenteritis, intestinal indigestion and similar conditions. The intestinal mucous membrane has been damaged by the preceding attacks and the bacillus of dysentery entering finds the lymph nodules easy of access, in that they have been laid bare by the destruction of epithelium. The process then becomes located in the follicles. There is swelling of the nodules and infiltra-

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tion of round cells takes place in and around them. This infiltrated tissue softens, breaks down, and the contents are discharged into the gut, leaving a cavity, the so-called follicular ulcer. At first the ulcer is no larger than the follicle, but necrosis of the surrounding tissue takes place and the ulcer enlarges. The ulcer may be limited to the submucosa, although it not infrequently extends into the circular muscular coat.

The third class, or membranous dysentery, represents the severest form of intestinal troubles in the young. The lesions are most marked near the ileocecal valve, in the sigmoid flexure and in the rectum. The affected intestine is two or three times as thick as the normal, and becomes stiff and hard. It is partly covered by a grayish green false membrane. Where the intestine is not obscured by false membrane, the mucous membrane appears red, angry looking and granular. The false membrane is found to consist of red blood cells, fibrin, round cells and bacteria.

In treating dysentery in infants and young children, the practitioner should keep constantly in mind the three important factors—diet, hygiene and medication.

Diet, I think, is far the more important consideration, inasmuch as the most common error in the treatment of this malady consists frequently in that we overlook the strength of the patient in our zealous efforts to combat the disease. Nutrition of the patient must be maintained to the best of our ability. Numerous cases have been observed wherein the stools have shown marked improvement just before death. Whenever this condition confronts us it originates the thought that if the child could have held out a little longer the disease would have been conquered. This may be true to a small extent, but it should also put us on our guard and make us doubly careful in feeding such a child, as the slightest improperly adapted food, introduced into the gut, can aggravate the condition beyond repair and destroy whatever good results that have been obtained.

Holt's opinion has been steadily gaining ground that the function of the stomach in infants and very young children is largely that of a reservoir, into which the milk and food is received, and from which it is allowed to pass gradually into the intestine, and that the gastric process is only a preliminary and partial one, even in the digestion

of proteids, this being completed in the intestine. This being true, the main digestive juices at work during infancy and early childhood are the secretions of the liver and pancreas. While it is true that the starch-digesting ferment of the pancreas is not secreted to any considerable extent during infancy, it has been clearly established that trypsin digests proteids, while steapsin and bile take care of the fats. In dysentery the secretions of these organs are so impaired that little digestion can be expected from them. Absorption, on the other hand, while no doubt impaired, is present to a considerable degree. Inasmuch as digestion is at practically a standstill in dysentery, and undigested food is dangerous in its action on the diseased intestinal mucous membrane, the rational procedure must consist in the administration of very little and easily assimilated food. All milk should be withheld for a considerable time, as it not only carries bacteria into the system, but furnishes a good media for the development of bacteria that are lying dormant in the digestive tract, and in its stead we should use some cereal decoction. A good preparation, and one which has served me well, is one drachm of malt extract to four ounces of barley water. Whey has been of great service in treating many cases of dysentery. It is prepared by adding two drachms of rennet or essence of pepsin to one pint of fresh milk at 100 degrees F. This is allowed to stand until firmly jellied. It is then strained and the liquid part kept cool, and each feeding should be warmed to body heat before feeding.

In the stage of convalescence skimmed peptonized milk is of great value, but we should be sure that all acute and active symptoms have subsided. It is prepared in the following way: Take one pint of skimmed milk and add four ounces of sterile water. To this add five grains pancreatic extract, fifteen grains bicarbonate soda, and three drachms of cane sugar. This is kept at a temperature of 110 degrees F. for one hour. It is then brought to a boil. At first give diluted with two parts water. If nothing bad appears, continue to give less diluted each day until the fourth day, when it may be given full strength.

Breast-fed babies afflicted with dysentery demand special consideration. As a rule, dysentery among breast-fed babies is not so common, and usually of a mild type. This

is accounted for in the following way: Breast milk is taken from the mother's breast and passed into the infant's stomach without even being exposed to the air, and enters the stomach free from bacterial change. Also, it is exactly the temperature of the body. Such babies can be put back on breast milk much sooner than bottle-fed babies can be returned to their food. But at the beginning, breast milk should be withheld as rigidly as milk is withheld from the bottle-fed infant, and only water or dexterinized barley water given. After improvement is evident, the breast may be cautiously allowed again, proceeding in the following way: Just before nursing, barley water, dexterinized should be given and the baby allowed to suckle breast slowly, and for a very short time only. Too free flow of milk should be prevented by compression of the nipple.

Hygiene—There still is a difference of opinion as to the contagious character of dysentery, but there is very strong evidence that it is contagious. With this fact in view, the movements should be disinfected as in typhoid, the body kept scrupulously clean, the buttocks carefully washed after each evacuation, and all gowns, bed linen, clothes, etc., changed as soon as soiled. The nurse should frequently wash her hands. Fresh air, frequent bathing and similar measures are strongly indicated.

The use of drugs should be considered at first from the standpoint that the disease is due to a specific microorganism. The rational treatment consists in trying to destroy the germ through the use of intestinal antiseptics. The mild chlorid of mercury given every three hours in small doses for two or three days, beta naphthol in one-tenth to one-fifth grain doses, and salol suspended in mucilage, is good practice.

If pain is severe, we may use Tr. Opii. Comp. or Tr. Opii. in starch water, per rectum, should the occasion demand, but we must watch the effects closely, as we may get opium poisoning in the same dose as if the drug was administered by the mouth.

Bearing in mind the fact that the lesions are mostly in the large intestine, rectal irrigation of bismuth suspended in mucilage acacia has splendid effects. High and low irrigation of hot normal saline solutions are also recommended.

FACTS RELATING TO HEALTH CONDITIONS IN THE DELTA OF THE MISSISSIPPI RIVER.*

Vernon MacCammon, M. D., Arkansas City.

Geological research has developed the fact that the Gulf of Mexico at one period extended into the locality of southern Illinois. The erosion of soil was carried down the current and a deposit has filled several hundred miles of the valley. As the streams overflow the silt is deposited on the banks raising them, and as you leave any stream the ground slopes away into a flat and in many cases into a swamp. This fact is not generally known and must be taken into consideration when formulating plans for the drainage of any district.

The great number of swamps and the use of surface drinking water formerly caused much sickness and an erroneous opinion of health conditions went abroad, causing people to avoid immigration into the delta, and some of the insurance companies were afraid to assume risks there.

However, the extreme fertility of the soil and the large areas of valuable timber causes settlers to come, and many towns have been built. Railroads are plentiful and have added their influence for good. Drainage canals are being constructed in nearly all communities. The United States Department of Agriculture and the railways are lending valuable aid in arousing public interest in the drainage projects.

I have received so many inquiries from the insurance companies as to health conditions that I have resolved to prepare this report. The members of this society who have resided in the delta for any length of time will, I know, corroborate my statements. As conditions are uniform in all the towns and their surrounding country, I will apply my description of conditions more particularly to my own town.

This has a population of about 2,000. There is one white person to every six negroes, according to the census just taken. It is situated on the bank of the Mississippi river, and a levee sixteen feet in height pre-

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vents an annual inundation of the town and surrounding country. Immediately back of the town is a vast expanse of flat wooded country that formerly held the winter rains until the summer sun caused their removal by evaporation. Last year a drainage canal was completed and the water now flows away as fast as it falls. The canal begins in the limits of the town and is being used for the installation of a septic tank to dispose of the sewage of the town. The town has an altitude of 120 feet above the level of the sea, and, as all the land is alluvial deposit, it is impossible to use water from ordinary surface wells. The entire delta is underlaid by a strata of excellent water at a depth of about 550 feet. The water from our well has been analyzed by four chemists and their reports agreed that the water contains no trace whatever of vegetable matter and no lime salts. In fact, the only thing shown is carbonate of magnesia. In steam boilers using the water no scale ever forms and the boilers are cleaned only once per year. Visitors usually remark upon the excellence of the water. Below a depth of 600 feet a sulphur gas is found. In digging these wells alluvial deposit is found for the first 100 feet and then a deposit of sea sand, after which alternate layers of shale, sand stone and sand, until the water-bearing strata is encountered.

Surface wells are not permitted in the town, and in the country the people use cisterns or tanks in which to keep rain water and the negroes are advised against using surface water.

The people generally have accepted the fact that the mosquito is a carrier of malaria. There are few deaths from malaria, and each year we see fewer fatalities from this disease and the pernicious cases are becoming quite rare. The people have learned that in a majority of cases of the pernicious type that the case was improperly treated, usually with patent chill tonics, as simple intermittent, and developed into a congestive or hemoglobinuric type. At the present time nearly all the deaths from malaria are in children. The only death from this disease in an adult in the past two years, and that in a man that worked in the country and neglected to protect himself from mosquitoes and endeavored to treat his malaria with a patent chill tonic.

Typhoid fever is rather rare and is generally of a mild type. There has been only two deaths from this disease in the last ten years. One case died on the fifth day from intestinal hemorrhage and the other death was attributable to a heart lesion, as under ordinary conditions the case would have been a mild one. I have observed that there has been no case of typhoid developed in a house that was provided with screens. Pneumonia is quite rare, as there has not been over six cases in ten years. I have never heard of a case of hookworm disease in the delta. There is no sand in the soil, which is a black loam, therefore the conditions are very unfavorable for the development of this disease. The people generally are well fed and robust looking, and there is a lack of the great numbers of anemic-looking individuals as seen in the sandy pine hill country surrounding the delta.

Our death rate in the whites is very low, and in the negroes is very high. The ravages of tuberculosis and syphilis sweep them away and I have yet to see a negro that I would consider a good risk for a life insurance company.

In ten years we have not had a case of diphtheria or scarlet fever. Epidemics of smallpox among the negroes have been promptly checked by compulsory vaccination.

In fourteen years the insurance companies have paid two death claims. One was an old line policy, the cause of death being alcoholism, and the other was a fraternal policy and the cause of death was malarial hemoglobinuria. Considering the health of our community as compared to any other locality having the same number of white people, it is very evident that we have much above the average public health.

The example which the world has received from the Canal Zone in Panama is doing much to remove the old erroneous idea that the delta country is unhealthy.

I hope that our legislature will give our public health officials some funds and enact proper laws for the collection of vital statistics, so that the world may be able to know the facts relating to public health in the delta of the Mississippi River.

ADDRESS OF CHAIRMAN OF SECTION
ON GYNECOLOGY AND
OBSTETRICS.*

J. B. Roe, M. D., Calico Rock.

Gentlemen of the Arkansas Medical Society:

I desire to thank you for the honor you have conferred upon me by making me chairman of this section of our meeting. I have been trying to think ever since you elected me to this chairmanship why you did it. I know it is not because of my great learning upon the important subjects of obstetrics and gynecology that caused you to select me for this place. It could not be on account of the extensive practice I have had in these lines that caused my selection, for I have never made them a specialty, and ever dread to hear Towser bark on a dark, drizzly night about the hour of midnight. I finally concluded a few weeks ago that I had discovered the reason for this selection. You know there is one man who holds a warm place in the hearts of a great majority of the people of Arkansas. In fact, for the past fourteen years he has stood paramount in the hearts of a majority of our people. Well, I was up at Kansas City a few weeks ago, and nearly every fellow I met bearing signs of tarrying too long at the wine, said "Hello, Mr. Bryan, I did not know you were here."

Then, the mystery was solved. You doctors who were here a year ago had thrown aside the recollection of your toils and labors. You had been mingling with the sons of Bacchus, and you failed to recognize me as an humble country doctor, but mistook me for that peerless one—the matchless Bryan.

No practice is more important than that of obstetrics and gynecology. Indeed, I believe the practitioner who makes a specialty of the subjects, and reaches a high state of proficiency, is capable of doing more real good for humanity than the specialist in any other branch of our profession.

The reason I believe this is because this line of work brings the physician in constant contact with woman—woman, the last, the best, and the most wonderful work of God's

creation. What is it to be a true woman? It is the grandest thing under heaven. She holds a position in the moral and religious world above man as far as heaven is above earth. Her position, I believe, is equal with the angels, and second only to the Son of God.

When the souls of men are stirred with strife and passion, and the field of battle is covered with bloody gore, who is the angel of mercy that ministers to suffering man? Woman. When we made our advent into the world it was woman's gentle hand that first received us, wrapped us in swaddling clothes and placed us at our mother's breast. It was woman that gave us our first caress. And it is woman that will minister to our wants to the last and close our eyes in death.

Who is it that makes the sacrifices at home, the father or the mother? Who bears the brunt and burden of rearing the family? Who teaches the child to say its prayers and instills into its young life the moral and religious principles which make up our Christian civilization? I answer, woman.

Woman, wife, mother, sister, daughter. Womanhood, true, pure, and virtuous! O, that I had language to paint thee as thou art, before this assembly! Could I but show all thy virtues, sacrifices, and self-denials for humanity, surely thou wouldst be enthroned queen in the heart of man forever.

Now, if my idea of womanhood is correct, and no one dare deny it, is it not the grandest work of our profession to be proficient in treating those diseases peculiar to women? Should we not devote more attention to woman and her diseases, that she, being strong and healthful, may give greater vigor to her posterity? I believe that in the successful treatment of the diseases peculiar to woman, we not only benefit the patient under our immediate care, but also give to the world a more healthful child, and thus enrich our nation.

Gentlemen, your time is valuable. We have a number of learned doctors who have prepared for this section of our work, and I am sure what they will have to say will interest and edify you much more than any lengthy address I might make. Therefore, I will consume no more of your valuable time, but will proceed to business. I thank you.

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

INFANTILE SCORBUTUS.*

H. N. Street, M. D., Argentina.

Scurvy in adults is about as old as the history of navigation of the seas, and it was at one time looked upon as being confined strictly to seafaring men. These were formerly its chief victims, with almshouses and prisons furnishing their complement.

Historically speaking, it was not till 1878 that Cheadle, and again in 1882, directed the attention of the medical profession to its frequency in infants and children. About the same time Gee, also an English writer, published an account of "Cases of Cachexia in Very Young Children, Associated with Hemorrhage and Due to Imperfect Food Supply." In 1883, Barlow made an exhaustive study of the subject and made a sensational report in the "Medico-chi-rurgical Transactions," and again in the "Bradshaw Lecture" for 1894. This graphic account stirred the profession over the entire globe, and since then the disease is known as "Barlow's Disease," also, "Periosteal Cachexia," which I think a more scientific nomenclature. This was followed by W. P. Northrup, a noted author on pediatrics, in the New York Medical Journal, and Crandall in the same journal, calling attention to its presence in America.

In my opinion an eminently correct definition of this disease may be given as a cachectic condition of infants, associated with with subperiosteal hemorrhage extravasations and due to improper foods.

Etiology—This being a germ-theory age, there are those who hold this view as the causative agent in this disease. This is in a measure substantiated by its occurrence in Russia in epidemic form in the recent past. However, the major port of the profession think it is due to a deficiency of the potassium salts, more especially the alkaline carbonates derived from the conversion of the organic salts of the vegetables and fruit juices, such as maltates, tartrates, citrates, and lactates. As the most important etiological factor, I wish to call especial attention to and emphasize the importance of too long continued use of artificial infant foods, including boiled milk.

Morbid Anatomy—We find the blood thin and dark, with a deficiency of the red cells and percentage of hemoglobin, together with very defective leukocytosis. There are also extravasations of blood which may be any-

where. May I ask the question that, is it not possible that this disease may not be the cause of death in those children dying with symptoms of some obscure brain lesion?

Symptomatology—Scorbutus is most frequently met with in infants between eight and ten months of age. Bouvaird reports in the Philadelphia Medical Journal sixty-four cases, the youngest of which was six months, and the oldest two and one-half years. The largest per cent of cases usually occurs between the ninth and thirteenth months. These children usually appear well-nourished, but they show something lacking in a complete picture of health, one of which is a degree of pallor. The disease may make its appearance suddenly or by a gradual advance. A degree of fretfulness of more or less duration is one of the first symptoms usually associated sooner or later by tenderness in being handled. Mothers often notice this and call the physician's attention to it. These two symptoms should always excite the suspicion of the attending physician and lead to a careful examination for the confirmatory symptoms and due inquiry as to the child's dietary. The most marked symptom is tenderness in or along the shafts of the long bones, more particularly the tibia. Upon handling the legs, and not infrequently at the approach of the doctor, the child screams with fear of pain. The child most frequently lies still on its back and with its little legs drawn up, as in this position it is more comfortable. A minute examination will develop the presence of some swelling of the lower ends of the femur or the upper end of the tibia, but while this occurs in well-marked cases, yet no one should discard the diagnosis in the absence of this condition.

The long bones of the upper extremities are by no means as frequently affected as those of the lower, the proportion being about one to ten. Gentle manipulation will reveal some edema, which is very sensitive, and if a fracture or a separation of the epiphysis has taken place slight crepitus will be found. Capillary hemorrhage may occur in the orbit, lids or conjunctiva, and occasionally ulceration of the cornea. Still more unusual sites of hemorrhage occur around the clavicle, ribs and bones of the skull.

Sir Thomas Barlow mentions a depression of the sternum toto in several cases, which is likely due to a loosening of the articulations with the ribs.

Unless there have been some teeth already

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

cut there may not be any change in the gums; however, some degree of injection of the mucous membrane or an ecchymosis may be found, especially about the incisors. If teeth are present the gums are swollen and are of a purplish tint. Ulceration of the gums is rare. It is also rare for the gums to appear normal, but such may be the case. Subcutaneous hemorrhage in the form of ecchymosis or petechial spots and hemorrhages, except from the gums, which are so frequently met with in the adult, are not common in children. Hemorrhage from the kidney, however, is not infrequent. Fever is not a constant symptom and seems to bear a relationship to the amount of hemorrhage.

There is always more or less change in the blood. Anemia is more marked if there be much subperiosteal hemorrhage. The anemia is more the result of a reduction in the hemoglobin rather than a diminution of red cells, unless there has been considerable loss of blood. The disease is often mistaken for rheumatism, but if we would but remember that rheumatism is never met with under one year of age, while while scorbutus is most frequent under this age, the error in diagnosis should not occur.

Ulcerative stomatitis may lead to an erroneous diagnosis, but if we will also remember that scurvy affects the gums, while stomatitis affects the lips and cheeks, this error can be avoided.

To sum up, the diagnostic points should make the diagnosis easy, for instance: the swelling and tenderness of the limbs, screams from pain in being handled or upon examination, together with the condition of the gums, make up a clinical picture that should easily establish the diagnosis. It is the mild cases that will give difficulty, but let me impress most vehemently the importance of considering well and evidences of pain on handling, with restlessness, and these symptoms taken together with a diet capable of producing the disease, should lead any medical man to then apply the therapeutic test to establish his suspicion or prove its incorrectness.

Prognosis—The prognosis is usually favorable provided the disease is recognized and proper treatment is instituted. No disorder gives better results from treatment than this disease.

Those cases that die are those in which death is due to some complication or intercurrent malady.

Treatment—The first consideration is to

avoid causes such as the use of canned foods and boiling of milk. Boiling of milk converts the amorphous calcium into firm salts. Remembering these facts the first consideration is to avoid these causes. Let it be your advice to all mothers to feed their babies orange juice daily. Egg albumin and orange juice make rosy-cheeked, cooing babies. Treat these cases by giving teaspoonful doses of orange juice every three hours. This with raw meat juice, unboiled milk, together with sunshine and fresh air, will soon dispel all pain and other symptoms and ere long the baby is healthy and strong.

The mother, out of gratitude, becomes a missionary to warn other mothers of the dangers lurking in artificial foods for babies, those put up in cans, instead of that which should flow from the fountains situated near the hearts of the uncrowned queens of the universe.

ANURIA, COMPLICATING HEMOGLOBINURIA—A SURGICAL CONDITION.

M. M. Norton, M. D., Sunnyside.

Anuria or suppression, as a complication of hemoglobinuric fever, is a surgical condition, and absolutely beyond the pale of medicine. After having treated about one hundred cases of hematuria from August 1, 1898, till the fall of 1900, in my fourth fatal case the idea occurred to me that nephrotomy, promptly and carefully done, would relieve this always fatal complication. Acting on my theory, I recommended the operation in two cases, which in both instances was refused, in 1903. It is useless to mention that they were fatal. My next case to have suppression came on the night of the 30th of July, 1909. The patient, an Italian boy, married, twenty-three years of age, had been an American about three years. Had hemoglobinuric fever about one year previous to this attack. Suffered from malarial toxemia before the first attack, and seemed never to get relief but for a short period at a time, until his second attack, July 27, 1909. Had a very severe chill, lasting about two hours; the following morning, another chill; hematuria profuse; temperature, 106. This temperature continued, a rigor with each hemorrhage. Progressive weakness, less urine, more blood, until complete depression the night of the 30th. I saw the patient the following morning about 9:00 o'clock, delirious, temperature 106, very little pulse, absolutely moribund. Knowing the case would

be fatal in any event, I mentioned the operation to his wife and mother, both of whom were willing. I was very anxious to see the result in what I was sure would be a fatal termination, but any urine in a case like this would be encouraging to repeat the operation in more favorable patients. The nephrotomy was done at 6:00 p. m. the same day, Drs. Henry and McGehee assisting. Anesthetic was borne badly; respiration was very poor, and before going under the ether had to be assisted. Hypodermoclysis of a pint normal saline solution had to be given to assist the heart. After nephrotomy the pulse seemed better. At 9:30 p. m. I saw the patient; catheterized the bladder and found eight ounces of bloody urine; resting better, but weaker. At 11:30 p. m. he died. Whether there was more urine when he died I cannot say. I did not see the patient any more. Until about two months ago I did not know that nephrotomy had been recommended and done in other instances for this condition: I thought the idea and operation were mine; but I find reported in Dr. Deaderick's little work on malaria that Werner, in 1902, two years after me, suggested nephrotomy for anuria in hematuria. Ziemann, of Leipsic, did the first operation in 1906—a young female patient in whom suppression had existed two days. The capsule of the right kidney was split and peeled off to the hilum and nephrotomy performed through the convexity of the organ. The operation was well borne, and subsequently 200 c.c. of cloudy, albuminous urine was voided from the bladder. During the following days complete suppression recurred, and the patient died.

The second operation was by Kruger, of Leipsic, in 1907. Decortication of one kidney was done. Five days after the onset of anuria, although the secretion of urine was profusely reestablished, the patient died of progressive weakness.

Third Operation—Kulz reports a case in a man during his second attack. Three and a half days after the onset of anuria nephrotomy, done upon one kidney, was performed through Simon's incision. Vomiting, which was formerly uncontrollable, ceased immediately. Three hours after the operation thirty c.c. of blood was voided from the bladder. In eight hours the dressing was saturated with bloody icteric urine, which necessitated changing the dressing every three hours. Twenty-four hours after the operation the patient died.

Though a microscopic examination of the kidney could not be made, upon cross inspection the nephrotomized kidney appeared much more normal than the other.

I would recommend in every case of hemoglobinemic fever, when suppression is suspected, that the patient be catheterized every two hours to determine when anuria is established. I think the failure of previous operations have been due to delay. A patient suffering from malarial toxemia—in almost, if not all cases, an acute infection—is in no condition to have uremia supervene, as this alone will destroy the integrity of our organism within fifty-four hours.

I think an important point is that the incision should be made a little posterior to the median line on the convexity of the kidney, with a very thin knife, through to the hilum, to avoid the larger vessels. Yet, the hemorrhage will be sufficient to deplete the intensely congested kidney. The capsule fibers, condensed areolar tissue, the interstitial connective tissue, columns of bertin, will be divided, thereby relieving the intra-renal pressure—the object of the operation—and allow the uriniferous tubules to expand, disgorge and become a functioning kidney—not one as impervious as a brick, which condition obtains in every case of suppression.

I think it advisable to irrigate the pelvis of the kidney with a hot saline solution, and, if possible, pass a ureter catheter to be sure the urethra is free from clots.

CHAIRMAN'S ADDRESS, SECTION ON SURGERY.*

J. A. Lightfoot, M. D., Texarkana.

Gentlemen of the Arkansas Medical Society:

The honor of presiding over the Surgical Section of this Society was given to me at the last meeting. I want to express my thanks and acknowledge the honor more if I could, for the reason that I was an absentee from that meeting; not a willing but a compulsory one.

I hope to present for your pleasure a good section. I have, by my selections, reason to expect as good if not better representation than for some time in the society's history.

I have the pleasure to report the acceptance and presence of Dr. Jabez N. Jackson, of Kansas City, who has kindly come with

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

a paper for this section. It is needless to say who or what Dr. Jackson is. Our society has honored itself in getting him amongst us, and I bespeak a most cordial greeting from every member to this distinguished surgeon and teacher.

An address on this occasion and befitting the environment, to be acceptable in all senses, must come from another pen than mine, and to give correctly the advances in thought and surgical action, would take too much time. Who knows better than this society the wonders of modern surgical science; the almost miraculous achievements of the knife in the hands of the modern surgeon?

To particularize or individualize would be an error on my part, for to everything who does a thing well, to him is due an honor, and many there are, who, while not wearing the laurel wreaths, deserve encomiums. Life is the perfect thing; to maintain it free from pain, to gladden the heart and home of a neighbor, the "do unto the other" is of the noblest moment, and he who lives in the hamlet, doing this, is as great in the one deed as he who inhabits the metropolis.

I need not, nor will I tell you of the individual work of anyone. The tendency of modern surgery is to maintain, save, repair, not destroy.

The recklessness of the ovariologist and the curettist is giving place to a saner and more conservative surgery. The aseptic

method has supplanted the septic, and even the antiseptic. Human life was never so dearly held as today, and we credit it to the intelligent progressiveness of the modern surgeon, and as we know him, the Arkansas surgeon of today.

Appendectomies and appendicostomies, even cecostomies are no longer fads or experiments. Early diagnosis and early surgical treatment are giving relief to greater numbers of sufferers. The X-ray, as a surgical adjunct, is proving its worth. Many of the new and partially tried anesthetics are being brought to our attention.

The broadening field of the specialist is beginning to be dotted with the individualist of greater merit.

It is the day of preventive surgery. Repair of cervix and perineum; and correction of displacements are taking foremost place and sacrifice of organs is made only as a last resort.

It is now within the possibility of any one man to achieve for himself the crown laurels of the victor. Research is, with all its hardships, rewarded with discovery. We stand today upon the broadest platform of surgical history.

Medievalism has given way to modernism; crudity to finish.

I hope this meeting will bear good fruit to the profession of Arkansas. With my thanks for your attention, we will now take up the papers of the section.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

The Arkansas Tuberculosis Sanatorium will be formally opened September 1 by Governor Donaghey and several other noted speakers of the state. The Board of Trustees will send special invitations to the medical profession of the state, and it is the wish of the board that as many as possible will be present.

The fifth annual meeting of the Medical Association of the Southwest will be held at Wichita, Kan., October 11-12. As Wichita is so centrally located, and as the programs of this association are always unusually interesting, there should be a full attendance of the profession of this state.

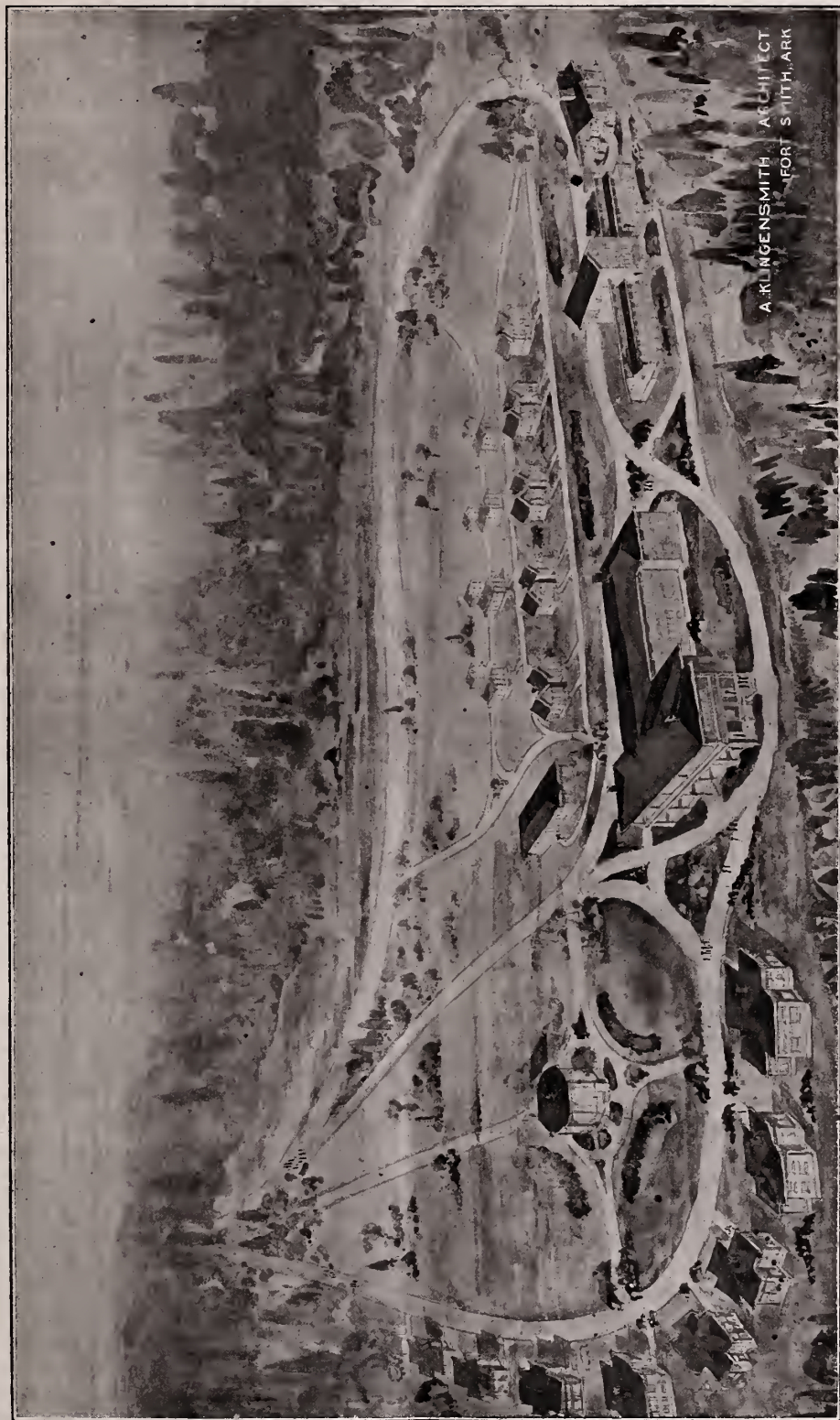
The profession at Wichita are making large plans for entertaining those who attend, and are making special plans for the ladies, and it is hoped that every physician who attends will plan to take his wife with him.

Don't forget the date, October 11 and 12, and begin to plan to attend.

There is so little business to come before this Association that practically the entire time will be taken up with scientific matters.

The Arkansas Tuberculosis Sanatorium is now receiving patients. The buildings are of the latest and most approved type, and are models of economy and utility for the purposes of a sanatorium. The site is a beautiful one, 900 feet above sea level, among the pines, high enough for refreshing breezes in summer and not high enough for the cold fogs of winter; free from malaria and mosquitoes, with a bountiful supply of excellent water and perfect drainage, and admirably adapted to the treatment of tuberculosis. The climate for the year round is unexcelled by any in the South or West, free from the sand storms and enervating heat of Texas and Arizona and the blizzards of Colorado and New Mexico.

The treatment will be strictly modern and the tables will be supplied with the best that the markets of the state afford. The terms are \$10.00 per week. This pays for everything the patient will need except clothing. Bona fide residents of the State suffering from tuberculosis and unable to pay for maintenance may be admitted to the sanatorium on written application of the county judge of the county of which such individual is a resident, setting forth these facts. Only those patients who are able to take the open air treatment can be received. The board recognizes the urgent need of a hospital ward for advanced cases, but the amount appropriated for building has not enabled them to construct it. Such cases cannot be properly cared for, and should not come to the sanatorium. The law requires medical examination before entering, and no patient should come without first making formal application and receiving an admission card. Necessary blanks and instructions will be furnished on request directed to J. S. Shibley, Superintendent Arkansas Tuberculosis Sanatorium, Booneville, Ark.



A. KUNGENSMITH, ARCHITECT
FORT SMITH, ARK.

The Arkansas Tuberculosis Sanatorium
BOONEVILLE, ARK.

PRESIDENT TAFT'S "KNOCKOUT BLOW TO THE 'DOCTORS' TRUST.'"

The New York Herald, in a recent issue, commences what is designated as a "special dispatch to the Herald" from Beverly, Mass., the summer residence of the president, by the statement, "President Taft gave today the knockout blow to the Department of Health proposed by the 'Doctors' Trust.'" The "special" is a full column article under an extra heavy main headline, "Doctors' Trust Bill is Doomed by the President," with five separate sub-heads of similar sensational import.

What are the facts?

President Taft has been a consistent and steadfast advocate of the establishment of a Federal Bureau of Health since the days when he first became a member of President Roosevelt's cabinet. From his first public statement on the subject to this last reported utterance at Beverly, Mass., it would be impossible for the most captious critic to show wherein the president has not been progressively consistent in the position he has taken on this vitally important matter. The opportunities to know his exact views have been abundantly frequent. President Taft has always made the conservation of human life the foremost plank in his platform for the conservation of the country's natural resources. Yet in the face of all this, here we find a presumably reputable newspaper distorting the president's recent reiteration of his preference for the establishment of a bureau instead of a department with cabinet rank into a "knockout blow to the Department of Health proposed by the Doctors' Trust." The president did not oppose the idea of even a department, but only said that Congress might not yet be ready to pass such a bill. Looking further, we find that the text for this full column sensational article is the following, which we take from the body of the article itself:

"In answer to an inquiry, the president said that it was his purpose to recommend in his annual message to Congress the establishment of a Bureau of Health. * * *

"Such a bill was recommended in the President's first annual message to Congress, but it was one of the few recommendations which did not bring fruit. * * *

"The president and Senator Lodge today indicated the belief that Congress would con-

solidate the bureaus of the various departments dealing with matters of health at the next session. * * *

"There was no hesitation on the part of the president in stating his position with respect to this proposed legislation."

These statements of President Taft, which are consistently in line with his every public utterance on the subject, are now distorted into a "knockout blow for the 'Doctors' Trust.'" Verily, the opponents of the establishment of a Bureau or Department of Health are in sore straits when they have to depend on sensational journalism of this order and countenance such distortions of the public utterances of the president.

OPPOSITION ENDORSES PRESIDENT'S POSITION.

But it is well to notice one important fact. The New York Herald, by implication at least, gives an unqualified endorsement to the president's position and his declared intention to recommend in his annual message to Congress the establishment of a Bureau of Health. Will the Herald be consistent in maintaining that endorsement, and will Mr. Flower and the League for Medical Freedom, opposing the work of the Committee of One Hundred, stand with the Herald in this support of the president? Or are we to see the opposition that has been so virulent against the establishment of a department or bureau and directed against a bogey "Doctors' Trust," now directed against the president—who delivered the "knockout blow to the 'Doctors' trust'"—and his plans for establishing a bureau. The interests that object to pure food inspection, or to scientific work on the part of the government for the preservation of health and the conservation of human life, will probably find some new pretext on which to hang their opposition.

THE AMERICAN INSTITUTE OF HOMEOPATHY ENDORSES FEDERAL HEALTH BUREAU.

The American Institute of Homeopathy, at the regular annual convention at Pasadena, Cal., on July 15, 1910, put itself on record as favoring the establishment of a Federal Bureau of Public Health. A special committee of three, with Dr. James W. Ward, of San Francisco, as chairman, was appointed to assist in the establishment of such a bureau. This is further evidence of the erroneousness of the claims by opponents of the Federal Health Board that Homeopaths are against it.

INSURANCE COMPANIES ADVOCATE FEDERAL ORGANIZATION OF HUMAN HEALTH ACTIVITIES.

During the last fifteen years life insurance companies have not only been able to return money to their policy-holders, but have been able to add to the amount of insurance given for the same premium. This is because people at younger ages are not now dying off so fast as they did fifteen years ago, on account of improved tenement house conditions, improved milk and water supplies and improved knowledge in the control of epidemics. These improvements have been brought about by a diversity of public health activities—much of them being wasted because of lack of organization, and all health activities handicapped by lack of scientific research and experiments and lack of proper statistical information. Finding that such practical results can be obtained even under existing conditions—results so vital to the people's welfare—the insurance companies are advocating that the government take up the organization and coördination of public health service. It has been possible for the Department of Agriculture, through efficient organization, to do so much for animals and plants, improving their health and giving them longer life, the insurance companies are eager to have the human health activities of the country similarly organized.

WHAT LIFE INSURANCE COMPANIES THEMSELVES ARE DOING TO IMPROVE HUMAN HEALTH.

Practically all of the companies represented in the Association of Life Insurance Presidents are giving their moral support to the movement for the prolongation of human life. In addition, many of them are doing practical educative work. Measure by number of policies in force, the association companies cover 78 per cent of the field of American companies, having 21,700,000 policies out of a total of about 28,000,000. The Association companies engaging in individual work along health betterment lines have 73 per cent of the total number of policies in force, or 20,500,000.

There is a group of five companies, aggregating 20,150,000, that make special efforts to stimulate their policy-holders to activity in personal and public hygiene. This is done by articles in company periodicals distributed to policy-holders, and also by other literature. One large company has done this for many years. Another company, in addition, coöperates with existing agencies for health

improvement, including anti-tuberculosis societies. This same company is experimenting in many cities along the line of sending visiting nurses to sick industrial policy-holders. Another company in this group within the year has established a bureau which provides free medical examination to policy-holders to detect disease in its incipient stage.

There is another group of companies in the association which goes beyond the body of policy-holders in its health promotion activities. They advise impaired applicants for insurance as to their physical condition and make suggestions to aid them. There are four large companies in this group. Two of them, in the East, have a total of 86,000 policies. Another is a flourishing Middle West company that has about 150,000 policies. The fourth is a young and conservative Southern company with 7,200 policies.

One of the Connecticut companies has published suggestions as to health reform in its magazine to agents. Two other companies, one of Massachusetts and the other of California, are considering active work in the future.

The Loyal Protective Insurance Company of Boston issued in August its first health bulletin, to be sent to 40,000 policy-holders. The company has now established a permanent health bureau, and is planning to enter vigorously into a campaign for lengthening human life.

WOMEN NEED HEALTH DEPARTMENT.

Miss Caroline Hazard, whose resignation from the presidency of Wellesley College was recently announced, in a published statement in regard to the proposed National Department of Health, after reviewing the reasons why the women of the country—the mothers of the race—should be deeply concerned in the passage of the Owen bill, said:

"The Owen bill provides for a Department of Health which will have at heart the care of the people, and will pass on to them in a more direct and immediate way than is possible through the slow percolation of general knowledge the results of all this special and expert study. Tuberculosis, which claims its victims by the thousands, is a disease of ignorance. It can be controlled. Through selfish greed our sea coast is in danger of being the open door to some of the terrible Asiatic plagues, diseases of sin and filth. It would be the duty of such a department to

protect our borders. Diseases of ignorance and malnutrition in the South threaten us. Prevention is the great duty of cities and towns, rather than cure after evils are established. For aid in such prevention, for help and guidance, the Department of Health could be looked to for authoritative advice. The Department of Agriculture sends seeds by the million to the farmers of the country for food production. Shall not the Department of Public Health prevent the spread of disease germs which propagate by the hundred million, and destroy the bodies which that food is meant to nourish?

"This is a simple question which must appeal to every housewife, to every mother, to every woman who loves her own family, and is therefore prepared to understand her duty to her neighbor."—Bulletin of the Committee of One Hundred on National Health.

THE OPEN AIR TREATMENT OF BURNS.

St. John (American Journal of Surgery) favors open air treatment of burns. The object of the open air method of treatment is to cause as little pain as possible and to avoid interference with the natural reparative processes which Nature best accomplishes in these cases. The advantage is that it does away almost entirely with extensive dressings, which are more or less painful, interfere mechanically with growth of granulation tissue and cause destruction of the granulations themselves, by bleeding, etc. Furthermore, the danger of keeping pus and exudate back in the tissue is obviated. If the posterior portion of the body is chiefly involved, the patient is placed upon a water bed, without attempting even to clean the skin or in any way further disturb the patient. In warm weather he can be left thus exposed to the air, and preferably the sunlight, covering only those portions of his body as are necessary. In winter, cradles are placed over him, and over these are spread blankets, leaving the body untouched. The face is left exposed, and the tentlike cover is so arranged as to fit snugly about the neck. This arrangement can be modified by using glass elevated over the burn, in combination with the blanket covering, thus making use of sunlight, even when the temperature of the ward requires suitable covering. Flies may be excluded by the usual canopy netting stretched over the bed. —New York Medical Journal.

COST OF WHITE PLAGUE WAR.

According to the report issued by the National Association for the Study and Prevention of Tuberculosis, the average cost of caring for tuberculosis patients in thirty semi-charitable sanatoria scattered throughout the United States is \$1.67 per day. The expense of maintaining the institutions in different parts of the country varies from 94 cents per capita to \$2.56, being more than twice as high in the West and Southwest as in the East. The aggregate expenditure was \$1,364,000.00 and the receipts \$1,548,000.00, 70 per cent of which came from public appropriations and private benefactions and the remainder from patients. It is estimated that there are 300,000 indigent consumptives in the United States who should be cared for by the state, which, at the rate named above, would cost \$50,000,000, though the economic loss from the incapacity of these afflicted persons is yearly \$200,000,000.00.

SOME FACTS THE PUBLIC SHOULD KNOW ABOUT THE EAR AND ITS TREATMENT.

Louis J. Lautenbach, A. M., M. D., Ph. D., Philadelphia, Pa.

The physician, to encourage in the public a hopeful attitude toward ear diseases and deafness, should emphasize:

1. That one-third of all adults are more or less deaf.
2. That this deafness is frequently avoidable, being usually due to neglect.
3. That this neglect often dates from childhood.
4. That in childhood throat and nose diseases, which are the cause of most ear troubles, are very common.
5. That these throat and nose troubles are in childhood easily cured and ear disease thus avoided.
6. That the adenoid growths and the tonsillar enlargements are common in childhood and easily removed.
7. That the stuffy and occluded nostrils should be properly opened and the child taught to become a nose breather.
8. That the throat and nose should be thoroughly treated until entirely well.
9. That all ear symptoms should at all times be treated as soon as recognized.
10. That if this be done, the results will

be very favorable and serious ear disease and persistent deafness will be avoided.

11. That the treatment should be persisted in until the case is cured or benefited to the highest possible degree, or until it is absolutely certain the ear cannot be helped with the means at our command.

12. That ear treatment should be vigorous and perseveringly persistent.

13. That the results of ear treatment are much more favorable than the public has been taught to believe.

14. That no case of deafness is entirely hopeless until there is destruction of the ear nerve.

15. That each year the increase of knowledge and of new mechanical appliances gives new opportunities to former hopeless cases.

16. That an unfavorable prognosis of a case of deafness (not destruction of the ear nerve), is absolutely certain only as applying to the prognosticator; he cannot of a certainty be sure whether there is not someone of superior knowledge or of greater mechanical skill who can help the case. Nowhere in medicine is this peculiar mechanical skill a greater factor than in the treatment of ear disease.

In short, the public should be taught to avoid ear disease by having their throat and nose troubles cured, not neglected, having ear troubles treated at their onset, and if ear disease has become firmly established, to treat it until the best possible results are obtained, using every method that promises relief, never believing that there may not be help, unless there is destruction of the ear nerve. While every case of deafness cannot be cured, nearly every case can be helped in a greater or less degree, and no form of ear treatment applied by any skillful specialist can at any time be counted as harmful. There are a few cases of ear disease which will, in spite of all treatment, progress, but fortunately these cases are very few indeed.

TUBERCLE BACILLI IN THE FECES.

Philip and Porter (British Medical Journal) have examined 109 different specimens. Of these, ninety-nine were from patients suffering from pulmonary tuberculosis in different stages of the disease, in the Royal Victoria Hospital for Consumption. None of the patients had intestinal tuberculosis. The others were from patients in the Royal Infirmary, one from a case of tuberculous peritonitis, and the others from patients

without a suspicion of tuberculous infection. Of the 109 persons, only thirty-four had sputum in which tubercle bacilli had been discovered; forty-two had sputum in which no bacilli were found, and twenty-four had no sputum whatever. Of the 100 tuberculous cases examined, seventy-nine were found to yield tubercle bacilli, and only twenty-one were negative. Of the nine specimens from presumably normal subjects, none yielded tubercle bacilli. Of the tuberculous patients, all those with bacilli in their expectoration, with one exception, presented tubercle bacilli in the feces. Of the forty-two cases in which bacillary examination of the sputum was negative, twenty-nine gave tubercle bacilli in the feces. Of the twenty-four cases without sputum, seventeen showed bacilli in the stools. These results are striking, concludes the authors, and are suggestive in regard to clinical diagnosis, and to the larger aspect of preventive medicine. Thus it may be stated with absolute certainty that the occurrence of tubercle bacilli in the feces is independent of the presence of an intestinal lesion. Indeed, their presence has little reference to abdominal tuberculosis. They were actually absent from the only case of tuberculous peritonitis which was examined. The remarkable frequency of their occurrence in relation to pulmonary tuberculosis, not only in cases in which tubercle bacilli were determinable in the sputum, but also in cases in which either bacilli were absent or there was no sputum whatever, would seem to afford an important addition to our means of diagnosis in doubtful cases of pulmonary tuberculosis. From the public health point of view, the almost unfailing presence of tubercle bacilli in the feces—the presumption is that in some of the negative cases in the present series more minute examination would have discovered them—raises questions as to the need for disinfection of stools, more especially in the case of bedridden individuals, such as has hitherto not been thought necessary. Further, if, in the Royal Victoria Hospital, where swallowing of sputum is carefully guarded against, tubercle bacilli are found to occur so constantly in the stools of the patients, whether expectorating bacilli or not, it may be assumed that in the great proportion of untreated cases, where swallowing is often the rule, the number of tubercle bacilli discharged in the feces will be vastly greater.—New York Medical Journal.

EHRLICH'S NEW REMEDY FOR SYPHILIS.

A new remedy for syphilis, recently announced by Ehrlich and Hata, under the somewhat mysterious name "606," seems to have been received in Continental medical circles with unwonted enthusiasm. This is shown by reports already published in our Berlin letter and the communications of our Budapest and Berlin correspondents in this issue, and by the abstract in our Miscellany Department. The new product is the result of a long series of experiments, carefully planned with the end in view of finding a remedy which will destroy spirochetes, particularly those of syphilis.

It is claimed to be an example of the complete destruction of the pathogenic agents of a disease by a medicinal product acting within the organism. It consists of a compound of arsenic allied to arsenilic acid and possessing the composition indicated by the name dioxidyaminoarsenobenzol. Apparently it was selected out of a large number of similar compounds by experimental trials, and only after numerous successes on apes and other animals was tried on man. The result, as described by Wechsellmann, Neisser, and others, impress one as being little short of marvelous. The startling statement is made that spirochetes begin to disappear from chancre and condylomata in a few hours, and are completely gone in from twenty-four to forty-eight hours. Syphilitic lesions, such as rupia, papules, ulcers, etc., we are told, heal with remarkable rapidity.

Considering the reputation and standing of the men who make the announcement, it seems possible that an agent more active and more powerful than mercury is about to be placed in the hands of the profession to be used against one of the most dreadful diseases from which humanity suffers. Considering its character, it might be supposed that the remedy would be a dangerous one, and yet it may not be. Arsenic is such a potent drug, however, that involuntarily the cautious think of the old saying, "*Timeo Danaos et dona ferentes*"—"I fear the Greeks even when they are bringing gifts."

The remedy is not yet on the market, and probably will not be until the present uncertainties regarding dosage, mode of administration, etc., are cleared up by further investigation in hospitals. Meanwhile, it would be well to receive the various reports

with due conservatism, bearing in mind the natural tendency to optimism on the part of those conducting such important investigations which seem so full of promise.—A. M. A. Journal.

A CASE OF PELLAGRA.

Drs. J. M. Proctor and T. E. Sanders,
Hot Springs.

Name, Mrs. K. Age, twenty-eight. Color, white. Occupation, mother and wife.

Family History—Father living, in best of health; mother died of consumption. One sister living, in good health. No brothers.

History Previous to Present Illness—She was reared partly in country and partly in town; married twice. Has a healthy daughter, six years old, from first husband. Contracted gonorrhea from first husband. Has been married to second husband only eight months. Gave a history of having a very sore eruption on back of hand, forearms and face last spring, which she supposed at the time to be due to sunburn, but which remained on her for about six weeks. Also has had intermittent attacks of diarrhea, for which she took treatment from her physician. Later on she began to have attacks of vertigo. Sometimes she would be down town when the attacks would come on her. Her husband says that he would have to have hold of her for a little while until it passed off, to keep her from falling, until she could gain her equilibrium. These attacks of vertigo began to increase from day to day, until finally she had to be led around from room to room. Melancholia soon developed. About the same time a severe stomatitis developed. She had had no mercury. The family had led her family physician to believe she had a luetic infection from her first husband, but he says he had never seen any signs to warrant the suspicion, but had given her a little iodid of potassium with succus alterans. He soon saw that this was not meeting her case, and discontinued its use and gave her bromides and tonics for her vertigo, which seemed to benefit her temporarily. She had no fever until the last few days of her life, when she began to show a starvation temperature. She soon began to refuse nourishment, and her speech was delayed. Her family noticed that she was gradually losing her mind. She then became bedridden, and everything that she ate would pass very quickly through her bow-

els. She would have attacks of nausea and vomiting.

When first examined, on May 3, 1910, there was an eruption on face and back of hands and forearms. No eruption on legs. The skin on the rest of the body was perfectly free of any dermatitis.

Character of the Lesions—On the dorsal aspect of hands there were spots of erythema, with a few bullæ and vesicles, and a heavy rough desquamation and pigmentation. At the elbow on the right forearm there was a large area of erythema, about twice the size of a silver dollar, with a few large bullæ situated within the erythema. The pigmentation on the backs of the hands and forearms gave the appearance of fresh spots of sunburn. The lesions on the face were erythema, vesicles, bullæ, and a mass of scales.

The stomatitis was a very severe type. The gums were swollen and red, the mucous membrane of the mouth and tongue were ulcerated; took a smear of bloody serum from ulcerated spots on the lip and examined for spirochæte. The microscopical examination was negative. From her mouth there was a continuous, voluminous flow of saliva. The nurse had to keep a towel under the chin to catch it, and was kept busy wiping out and spraying her mouth.

The rectum was red and slightly swollen, and about the same color as the mucous membrane of the mouth. The bowel evacuations, toward the end, were tinged with blood. No condylomata or hemorrhoids around or in the rectum. Towards the last of the disease the evacuations of the bowels and bladder were passed involuntarily.

There was a vaginitis. The mucous membrane of the vagina was red and swollen—the same color as that of the mouth. There was a thin discharge. The hemoglobin was 50 per cent. She was emaciated, and had lost considerable weight.

The abdomen was flat; no tympanites. The liver, spleen, heart and lungs showed no signs of any trouble or involvement upon physical examination. There was no clinical symptoms to suspect any renal involvement, and we were unable to get a specimen of urine to examine, because at the time we first saw her her mind was gone and she was beginning to lose control of her bowels and bladder. There was no cough nor any history of any cough, although her mother had died of consumption.

The Nervous System When First Examined—Pupils of eyes symmetrical and apparently normal. The reflexes were very much exaggerated and ankle clonus was present. She was in a state of general tonic spasms. Every muscle in her body was in a constant tremor or spasm, which condition had begun about two or three weeks prior to her death and continued until a few hours before her death, when she relaxed as the approaching coma was deepening.

She had great difficulty in swallowing on account of the continuous pharyngeal muscular tonic spasms, and preferred not to swallow anything. Her speech was at first delayed, and for several days before her death she refused to talk. At times she would utter a few words to herself. For the last few days of her life she was totally oblivious to every one in the room.

There were no clonic spasms nor lockjaw. She kept her mouth open all the time after she became demented. Her chin was moving continuously from the tonic spasms. She refused to lie on her side, and would instantly get back on her back when her position was changed. These tonic spasms continued day and night; no intermission, no relaxation, as above stated, until a few hours before death.

There was no sign nor symptom of any luetic infection; no glandular enlargement; no nodes on tibiæ; no eruption, except the one described. Nasal septum in good shape. No history of falling of the hair. No history of any luetic symptoms whatever, even though her father was suspicious of her having contracted it from her first husband.

Dr. G. A. Hebert went out with us to see her about six hours before her death. She was then passing into a coma. The tonic spasms were becoming less frequent. Her reflexes were subsiding gradually. Just before death she relaxed completely, and died with asphyxia in a deep coma.

Her Relation to Corn Products—She was raised mostly in the country up to the time when she was seventeen years old, and of course had eaten a great deal of corn products, but the family say that they had never noticed that she was especially fond of corn bread or corn products. Of late years they said she seemed to detest corn bread, and would eat any other bread in preference.

Her first husband had caused her a great deal of trouble, and she was inclined to worry a great deal about that.

None of her ancestors nor members of her family have had any such disease.

Her hygienic surroundings have always been good, having been raised in a good family.

County Societies

The Lawrence County Medical Society has issued a neat program for their meeting at Portia, Wednesday, September 7, 1910, at 1:30 p. m. Subject, "Obstetrics." The assignment of topics is as follows: Vomiting in Pregnancy, G. Max Watkins; Pneumonia in Pregnancy, C. C. Ball; Puerperal Eclampsia, T. C. Neece; Funis Presentation, B. R. Woodyard; Males, W. J. Robinson; First Stage of Labor, J. C. Swindle; Dilatation of Soft Parts, J. H. Stidham; Anesthesia in Labor, J. C. Guthrie; After Care of Woman, G. A. Warren; Forceps Delivery, E. T. Ponder; Twin Pregnancy, A. L. Peacock; Ante-Partem Hemorrhage, W. A. Smith; Breech Presentation, J. W. Morris; Third Stage of Labor, J. C. Land; Puerperal Septicemia, J. R. Crigler; Care of Infant, J. W. Coffman; Treatment of Lacerations, H. R. McCarroll. Other papers are expected. It also has the following little reminder:

"Dear Doctor—Progress should be our watchword. Osler struck the keynote when he said that 'lack of progressiveness in the profession was more important to the public than the preliminary education of medical students.' Joseph Price, of Philadelphia, said that 'the great trouble with the average American physician is that he is a dollar-chaser instead of a knowledge-chaser.' Our county society is postgraduate work, and we cannot have too much of it. Doctor, the success of this meeting will depend to a great extent on your paper. Be sure and write it, and send it by someone if you cannot go. Drive through if no train is convenient.

"H. R. MCCARROLL, *Secretary*."

PEDIATRICS' SPECIAL POLIOMYELITIS NUMBER.

The August issue of Pediatrics is a special edition of 100 pages devoted exclusively to the study of Acute Poliomyelitis. The original articles are learned disquisitions covering

every phase of this most interesting but dreadful malady to infantile life, viz.:

I. "The Pathology of Acute Poliomyelitis" is written by I. Strauss, A. M., M. D., of New York City.

II. "Experimental Poliomyelitis" is from the pen of Simon Flexner, M. D., of New York City.

III. "A Small Epidemic of Seventeen Cases of Acute Poliomyelitis" from John Milton Armstrong, M. D., St. Paul, Minn.

IV. "Additional Observations on Acute Poliomyelitis," by F. E. Coulter, M. D., Omaha, Neb.

V. "A Contribution to the Study of Acute Poliomyelitis, Based on the Observation of Thirty-eight Recent Cases" is from Colin K. Russel, M. D., F.R.C.P., Montreal, Can.

VI. "A Plea for the 'Abolition' of the Term 'Infantile Paralysis' as a Synonym for 'Acute Poliomyelitis'" is contributed by George P. Shidler, A. B., York, Neb.

VII. "Acute Poliomyelitis," by J. S. Fowler, M. D., F.R.C.P., Edinburgh.

VIII. "Report of an Epidemic of Two Hundred and Seventy-nine Cases of Acute Poliomyelitis" is written by C. A. Anderson, M. D., St. Louis, Mo.

SECOND ANNUAL MEETING OF AMERICAN ASSOCIATION OF CLINICAL RESEARCH.

The second annual meeting of the American Association of Clinical Research will be held in Boston on September 28 and 29, 1910.

Some very valuable contributions on researches in medicine and surgery, in prophylactic and anaphylactic medicine, in mental medicine, in radiotherapeutics, in metabolism, etc., are promised. There will also be a public meeting.

The cause of the association, to secure the true facts and principles of medicine, and to advance medicine on the basis of truth and not of whim, is the cause of every true physician. Every physician is most cordially invited to become a member. Applications and program will be forwarded on request.

JAMES KRAUSS, *Secretary*,
419 Bagston Street, Memphis, Tenn.

Personals.

Dr. C. R. Shinault and family spent July at French Lick, Ind.

Dr. William R. Bathurst spent a few days this month at Armstrong Springs.

Dr. E. R. Dibrell has been in Chicago several days, having taken his son there for treatment.

Dr. F. D. Proctor, of Junction City, has spent several days in the city.

Dr. R. C. Dorr, of Batesville, our president, has returned home, after a few weeks in Chicago and Rochester, Minn.

Dr. J. S. Kolb, of Clarksville, was in the city August 10.

Dr. J. P. Runyan is spending a few days in Colorado and Yellowstone Park.

Drs. J. O. Hatcher, of Imboden, and G. M. Watkins, of Walnut Ridge, both of Lawrence County, were left out of the list of members of the State Society in the July number. It was an oversight of the proofreader.

Dr. Leonard R. Ellis, of Hot Springs, major surgeon, state militia, had charge of the medical department of the provisional regiment which has just returned from a two weeks' outing at Leon Springs, Tex.

Deaths.

Dr. F. S. Raymond, former president of the City Board of Health of Memphis and a prominent physician, died August 16. Dr. Raymond formerly practiced medicine in Pope County, Arkansas.

Book Reviews.

A Practical Study of Malaria—By William H. Deaderick, M. D., member American Society of Tropical Medicine, Fellow London Society of Tropical Medicine and Hygiene. Octavo of 402 pages illustrated. Philadelphia and London, W. S. Saunders Company, 1909. Cloth, \$4.50 net; half Morocco, \$6.00 net.

The Journal wishes to acknowledge receipt of Dr. Deaderick's new book, "A Practical Study of Malaria." After a careful review of the work, I believe this little work to be the most comprehensive treatise ever published on the subject, and take great pleasure in recommending the book to all physicians who are interested in the study and treatment of malarial diseases.

Dr. Deaderick is a fellow member of our State Medical Society, and we should feel very much honored to have a member among us who has donated so much to medical literature on so vast a subject as malaria.

W. A. S.

NEW EDITION OF GRAY'S ANATOMY.

A man may be a great anatomist or a great teacher, but when one man combines these two faculties his single mind, by its complete coöperation, can produce a teaching book in which matter and method blend into a result obtainable in no other way. This double-sided genius was possessed by Henry Gray, and until Nature grants to one individual like endowments, his work will stand. Owing to the incessant activity in all branches of medicine, books in any of its departments are almost invariably short-lived. The single exception to this rule is Gray's Anatomy. In the fifty years since the author's early death it has grown beyond even the leadership in its own subject, and has become the foremost medical book in all English literature. As English is now the world language, this is equivalent to primacy in the medical literature of the world.

Eighteen editions have been demanded in the course of its half century, and they have enlisted many of the ablest anatomists of this period. The principles on which Gray built his book have been followed, and it is not too much to say that during two generations it has guided the teaching of its subjects in America as well as England. An army of students has conned its pages, and has carried it away into practice, for it is equally valuable to the physician and surgeon for reference to underlying points. In fact, the editor has made the applications of anatomy, in medicine as well as surgery, a special feature.

Of all the editions, this new one represents the most thorough revision. Every line has been scanned for possible improvement. Anything in the nature of a possible obscurity has been clarified, passages have been rewritten, and new developments have been incorporated. Rearrangement has eliminated many duplications, and this, together with condensation in style, has rendered it possible to present more information in one hundred pages less space, to the reader's obvious advantage. Prof. Spitzka, the editor, is one of the foremost anatomists in the world, and he joins to this the apt qualification of being himself an artist as well, so that the drawings from his own hand present his knowledge directly to the mind of the reader. Another of Gray's fundamental improvements, in which his book has always been unique, was the engraving of the names of the parts directly on them, so that the student learned at once not only their nomenclature, but also their position, extent and relations, the four cardinal points. The advantage of his graphic method over the elsewhere customary lines and reference letters is obvious. Gray's book was also the first to contain illustrations in colors. In this new edition, besides all the improvements in the text, the splendid series of characteristic illustrations has been equally revised, many cuts being replaced and more added, and the use of colors is more lavish than ever. No student in any profession, or in any branch of medicine, has offered to him any instrument of instruction comparable to Gray's Anatomy. It suffices to say that the new edition will excel any of its predecessors.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
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 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
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 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kehler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
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 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shambaugh, 100 State St., Chicago.
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OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frostville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothren, Walcott.
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 Pathology—M. D. Ogden, Little Rock, chairman; William H. Deaderick, Helena, secretary.
 State of Medicine and Public Hygiene—St. Cloud Cooper, Fort Smith, chairman; Anderson Watkins, Little Rock, secretary.
 Dermatology and Syphilology—Samuel Steer, Hot Springs, chairman; M. F. Mount, Hot Springs, secretary.

COMMITTEES 1910-1911.

Committee on State Legislation and Public Policy—F. T. Murphy, chairman, Brinkley; M. L. Norwood, Lockesburg; J. G. Eberle, Fort Smith.
 Committee on Scientific Work—B. L. Harrison, Little Rock, chairman; H. H. Neihuss, Wesson.
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COUNCILOR DISTRICTS AND COUNCILORS.

1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Cleburne, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmot. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Neihuss, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, A. H. McKenzie, Dardanelle. Term of office expires 1912.
 Ninth Councilor District—Baxter, Boone, Carroll, Marion, Newton, Searcy, Stone and Van Buren counties. Councilor, C. T. Canady, Marshall. Term of office expires 1911.
 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

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Original Articles.

DIAGNOSIS AND SYMPTOMATOLOGY OF TYPHOID FEVER.*

A. E. Harris, M. D., Little Rock.

Since the assignment of my subject by our secretary I have received his tentative program, and, glancing at the papers to be read at this symposium, I deem it wise, in order that my paper be in the time limit and not to overlap my colleagues' papers, to confine my part of this to the manifestations occurring during the first week or ten days of the disease and discuss some points in the diagnosis.

After a period of incubation lasting from three to twenty-three days the onset is usually insidious, the patient complaining of languor, anorexia, slight cough, slight diarrhea or constipation, epistaxis, feverish symptoms, headaches worse at night, until, as he usually expresses it, he has stuck it out as long as he could and takes to his bed. From this period we can usually date the beginning of the illness. From this time until the end of the first week, in the majority of instances, the temperature rises higher every evening, reaching as high as 103 or 104 degrees, passing on to the continued type of fever, as seen in the second week. Pulse is rapid, full, often dicrotic, but the rapidity not in proportion to the degree of temperature. Headache continues, being more especially marked at night; tongue coated, abdomen slightly distended, bowels

constipated or several movements a day. Toward the end of the week rose spots begin to appear on the skin of the abdomen, the spleen is enlarged, distinctly palpable and tender.

A slight bronchitis may still be present. The variability of the symptoms at the onset is widely known, but a recent analysis of the symptoms at the onset of 1,500 cases may not be amiss at this juncture. Twenty-three per cent had chills in the beginning, 79 per cent headache, 55 per cent anorexia, 34 per cent diarrhea, 21 per cent epistaxis, 30 per cent abdominal pain, 16 per cent constipation, 0.7 per cent pain in right iliac fossa.

We have special modes of onset that are so misleading that unless the physician be constantly on guard a mistaken diagnosis will certainly be made. Foremost is that in which nervous manifestations overshadow all other symptoms. Headache of an intractable nature, severe facial neuralgia, pronounced delirium, may be initial symptoms. Symptoms and signs of cerebro-spinal meningitis, accompanied by mania, may precede the characteristic symptoms.

Last autumn one case in my practice continued with these symptoms throughout the entire course of the illness.

The severe bronchial type, or even pneumonia or pleurisy, may usher in the disease.

Another type is that in which all symptoms of acute nephritis are present as initial symptoms.

The ambulatory form is more common than we suspect. My attention was forcibly attracted to this form while serving my medical internship by having a young boy walk in the hospital with all signs and symptoms of perforation. The surgeon operating on this case told me that two similar cases

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came under his attention for operation at the Pennsylvania hospital. Both had continued to fight their fever and kept on their feet until hemorrhage, and later perforation, compelled them to seek relief.

Two or three years ago Cabot published an article dealing with the fevers of two weeks or more duration in the New England States. He considered the causes of them as typhoid, some form of tuberculosis, or pyemia. The same would apply to this part of the country with the addition of malaria.

The report of H. F. Harris, secretary of the State Board of Health of Georgia, three years ago, on the fevers of southern Georgia, termed by the local physicians slow fever, typho-malarial fever, bilious remittent fever, showed conclusively that the hybrid malady, typho-malaria, was nonexistent. They were either malaria of the estivo-autumnal type or typhoid or paratyphoid affections. From the ordinary forms of malaria in this country, the differentiation from typhoid is comparatively easy. The judicious use of calomel and quinin clears up the maze in four or five days if no microscopic blood examination is made.

From the estivo-autumnal type the differentiation is not always so easy. Repeated examinations for crescents and ovoids, and, if considered necessary, splenic puncture, should be made.

For further evidence the Widal test or agglutination test should always be made in a suspected case. Its usefulness is impaired by the fact of the patient once having had typhoid. The test is always positive, and at times the test is negative until late in the disease.

Notwithstanding the above, it is the most constant sign that we have in typhoid, as the statistics gathered by Cabot and others indicate. In 5,978 cases, 97.2 per cent gave a positive reaction some time during the disease; 93 per cent of 849 cases were positive before the eighth day.

Whenever it is inconvenient to obtain virulent, active bacilli, the microscopic method is very satisfactory, from the reports I have received from clinicians.

Isolation of the bacilli from the blood, urine and stools is of great service if laboratory and hospital facilities are obtainable, but will hardly be used as a routine clinical measure.

While the purpose of this paper is not

to take up microscopical technic, a few practicable observations on the most satisfactory test, the microscopic Widal, I consider not out of place.

A standard stock culture of the bacillus typhosus, cultivated through many generations, is the prime requisite. From this an inoculated bouillon of from sixteen to twenty-four hours of age is necessary for a test.

Collection of serum for the test is done in two or three ways. The most satisfactory for transportation is to use glass tubing of one-fourth inch diameter and about two inches long, drawn out into a capillary tube at both ends. By capillary attraction the tube is two-thirds filled, sealing the free end of the tube, centrifuged at once, if possible, to separate the corpuscles from the serum, and the other end sealed if considerable transportation is necessary. The tube is filed and broken just above the point to which the serum rises, and the serum carefully removed with a capillary pipet and diluted to whatever extent desired with physiological salt solution or sterile distilled water.

Collection of the blood on glazed paper is fairly satisfactory, but the degree of dilution must necessarily be uncertain.

For several years my custom has been to collect the blood with the white blood pipet, drawing up the blood to the .5 mark and diluting to the 11 mark with physiological salt solution, making the dilution one-twentieth.

One drop of this solution mixed with one drop of the bouillon culture makes a dilution of one to forty, to be observed for one hour as a hanging drop preparation.

Cessation of motility and clumping of bacilli are to be regarded as a positive reaction. High dilutions are to be preferred to the low.

The study of the pulse, temperature chart, presence or absence of leucocytosis, Widal reaction and blood culture will serve to differentiate pyemia from typhoid.

Typhoid has been called tuberculosis, and vice versa, and under some conditions the diagnosis is difficult, but careful physical examination combined with our laboratory findings will usually suffice to differentiate the two.

Lumbar puncture, in cases presenting marked nervous manifestations, is of great service. Cultures made from the fluid and

the study of the type of cells predominating will shed light on the subject.

While medical science is not entirely accurate, and our diagnoses are often made, or, more properly speaking, oftener unmade, at the postmortem table, we cannot refute the fact that microscopical findings are of such material assistance that clinical evidence alone should not be relied upon.

Inasmuch as we have no state pathologist as yet, I cannot refrain from advising that wherever there is a group of physicians practicing, one should be designated as the pathologist, preferably the youngest one, as he would have more time and should be better posted on the technic. Given the proper encouragement by the older physicians, and sufficiently remunerated by county or city, or individuals, there is no reason why a competent pathologist should not be developed in every county in this State for the proper diagnosis and consequently the proper treatment of this and any other disease of known specific origin.

TYPHOID FEVER—ITS PREVENTION.*

O. K. Judd, M. D., Little Rock.

The principal factor in the means for the prevention of typhoid fever is the handling of the patient. It cannot be denied that if our typhoid fever patients were handled with due regard for the disinfection of their excreta there would be but little need to subject our food and water supply to such rigid inspection and measures precautionary.

This comes within our domain, as physicians, and a greater responsibility falls upon us than rests upon boards of health in preventing small or large epidemics of this disease. Should all typhoid fever patients be handled with this fact ever in view, our food and water supplies could not become contaminated.

Unfortunately, however, we do not always see the milder cases, and some of the more severe do not come under our observation until they are well advanced with the fever.

In most of the hospitals of the United States the patients with typhoid fever are treated in the medical wards, and there is no doubt a certain degree of risk to be had. However, the more thorough disinfection,

carried out by trained attendants, counteracts to a certain extent the advantage gained by private isolation.

In private practice, where possible, a room should be chosen which will combine good ventilation and sunshine with partial isolation and easy means of disposing of excreta and of soiled linen without contaminating any more of the house than is necessary. Just as soon as the diagnosis is suspected, rigid rules should be made and enforced regarding the disposal of excreta and the disinfection of all articles which come in contact with the patient. Of course, different circumstances will require varied arrangements, but if the principles are understood and the objects to be obtained are considered, the manner of their achievement is of no great import.

In the city, where injury to plumbing is to be avoided, formalin and carbolic acid are the best disinfectants. Formalin is easy to use, efficacious, not very expensive, and the odor is not lasting and counteracts the odor from the stool. Fecal discharges should be received into a vessel containing about a pint of 10 per cent formalin solution. After defecation, the stool should be covered with a like amount of the solution and mixed thoroughly by stirring with a stick, which should be burned, and after standing for an hour or so can be safely emptied. Urine should be disinfected by adding one-fortieth its volume of formalin. Milk of lime, which is slaked lime with four volumes of water, mixed with equal volumes of the stool, allowed to stand for two hours, or carbolic acid, one-twentieth, could also be used.

Soiled bed linen and other articles which may be infected may be soaked in a 5 per cent carbolic acid solution, and then, when possible, boiled or exposed to dry heat in a disinfecting chamber. The sputum should be disinfected, and may usually be burned. The nurses and attendants, after coming in contact with the patient, should also disinfect their hands carefully, both for their own protection and for the protection of others. The disinfection of thermometers and other utensils should not be overlooked. Any person taking care of or handling a case of typhoid fever should in no manner be connected with the preparation or handling of food for the household.

As the patient becomes convalescent, formalin should be given in doses of eight-tenths grain three times a day for two days

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in each week until convalescence is complete.

While vegetables are probably responsible for a very few cases of typhoid, not alone due to the fact that they are raised from the soil, but from the methods of handling after reaching the market places, and in like manner fruits, milk is the greatest disseminator of typhoid bacilli under the head of food products.

Milk is a favorable culture medium for the bacillus typhosus. Therefore, if a small particle of matter containing this organism is introduced into milk, the organism may undergo rapid multiplication and become disseminated throughout this favorable medium.

Considering the tremendous multiplication which the bacillus may undergo in twenty-four hours, in milk, it is easy to appreciate how one can or bottle of infected milk taken into a dairy and mixed with a large volume of milk may be responsible for exposure to infection of several thousand persons.

Milk may be contaminated at the dairy farm, where the chances of infection being conveyed from the patient in the dairyman's family, in the majority of instances, is very great. Especially so if the rules for the care of the patient, as given above, are not strictly carried out.

Flies passing from the infected excreta to the milk or the milk can, or the polluted well, spring or stream from which water is used for washing cans, readily convey the infection.

Milk may become infected after it reaches the city dairy, which in many instances is located in the most unhygienic sections, where frequently typhoid fever patients are cared for in a house adjoining the dairy, or even in the same building. Milk, after being delivered into the house, may become contaminated by the hands of those caring for the sick, or by flies, etc., and be the medium of conveyance of infection to others of the household. Cans or bottles returned from houses in which there are typhoid patients, and not disinfected before being refilled, may be the means of disseminating the infection in the milk.

This source of infection must to a great extent be controlled by our local boards of health.

The prevention of the introduction of infection into milk at once suggests itself, but the difficulty of carrying it out practically becomes evident when we consider the num-

ber of farms from which the milk supply of most of our cities is obtained.

The following requirements are suggested:

First—Location of the dairies in good surroundings.

Second—The prevention of the handling of milk by persons who come in contact with typhoid fever patients, or who themselves are liable to be discharging the bacillus typhosus in their excreta; to require the removal of a typhoid fever patient to a hospital or to some other house, or to close up the business until the danger from that patient has passed.

Third—Exclusion of flies and other insects, so far as possible, by screening, etc.

Fourth—Sterilization of bottles and cans returned from houses before being again filled with milk, or the use of paper bottles, which would not need to be returned.

Fifth—The sealing of the bottles or cans of milk so that they may not be infected in the course of delivery.

Sixth—By the destruction of infection in milk, which at the present time seems to be the cheapest and the most practical method to prevent the spread of typhoid infection in the milk supply in the cities, which is accomplished by the pasteurization of the milk after it has been placed in the bottles or cans for distribution. Supplement this with an intelligent supervision over the depots and stores where the milk is sold, and milk as the causative factor of typhoid fever in the cities would be practically removed.

Water is also a distributor of the typhoid bacillus, shallow wells, springs and streams being the most frequently polluted of our water supplies. It is very hard indeed to convince the average layman that the cool spring near by, or the clear, potable water from the well, which "is the best in the neighborhood," could possibly be the source of illness in his family.

The methods by which water is furnished our larger cities, where settling basins and filtration plants are in use, makes the tap water the safest for consumption. In no instance, during my three years as health officer, has it been possible to trace a single case of typhoid fever to the hydrant water of Little Rock.

The water supply should always be looked into wherever a case of typhoid develops, and, should it be a shallow well or a spring, should be regarded with suspicion, and the use of such water suspended or the water

sterilized by boiling before being used.

The method of vaccination against typhoid fever is yet in an unsettled state. This method was introduced some years ago by Wright, in the British army during the Boer war.

Other experimenters along this line are Leishman, Musehold, Strong, Pfeiffer; probably the latest report coming from H. H. Russell, of the United States army, published in the Johns Hopkins Bulletin for March. His conclusions are based on an extensive and intensive study of this subject in a series of 3,640 vaccinations, and are as follows:

First—Vaccination against typhoid undoubtedly protects to a very great extent against the disease.

Second—It is an indispensable adjunct to other prophylaxis among troops and others exposed to infection.

Third—It is very doubtful if there is an increase of susceptibility following inoculation.

Fourth—Vaccination during the disease for therapeutic purposes fails to reveal any negative phase.

Fifth—The statement that vaccination should not be carried out in the presence of an epidemic is not justified by the facts at hand.

Sixth—The procedure is easily carried out, and only exceptionally does it provoke severe general reactions.

Seventh—No untoward results occurred in this series of 3,640 vaccinations.

A great aid in the prevention of typhoid fever would be the passing and enforcing of laws requiring every typhoid patient to be isolated and treated as a contagious case, and the compelling of every physician to report his cases of typhoid to the secretary of the local board of health, in order that the source of infection could be inquired into, and, once found, the proper steps taken for its elimination.

PECULIARITIES AND SOME PECULIAR TYPES OF TYPHOID FEVER.*

G. A. Warren, M. D., Black Rock.

In my first consideration of this subject I thought I should give, briefly, all the peculiar cases of typhoid fever that have come

under my observation and care during my professional life, but when I began to go over my records and ransack my memory I found I should have to limit the paper to the extreme cases I have had, for the majority of my cases have had some peculiarities or odd phases that would exclude them from being classical cases.

The first case I wish to relate was of a female, about thirty years old, married, and the mother of three or four children ranging in age from one year to ten years. This patient began bleeding from the gums about the end of the second week, and continued for about eight or nine days, till the blood was of a thin, watery consistency, and would hardly stain a white cloth, but the quantity seemed as great as at first, and all my efforts to check the hemorrhage or support the woman's vitality seemed of no avail, and she died after being for several days completely exsanguinated.

The hemorrhage was so slow that I could supply the quantity by giving her plenty of liquids to drink and injecting normal salt solution into colon. In this case there was never any intestinal hemorrhage or much distention or tenderness, and after the patient was partially exsanguinated her temperature dropped and was about normal, or possibly a little subnormal from this time to the time of her death. She had no one to wait on her a great part of the time, save the little children or her husband, and they handled the soiled clothes or rags indiscriminately, and yet none of them contracted the disease.

I thought possibly that the blood might have been partial protection to the children—the husband being immune from a previous attack.

A case similar to this one I saw in consultation a few years later. This was a girl eighteen or nineteen years old, who had a constant bleeding at the nose for three or four days, or till death. This epistaxis occurred later than is usual, coming about the end of the third week. Nothing we did in the way of local or constitutional measures seemed to be of any benefit, save for a few hours at a time, when the bleeding would come again with renewed energy, as it seemed, from having taken a rest.

About two weeks after the first case I related, and during an epidemic of typhoid fever, I was called to see a female patient who had eaten some mutton just after she

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had passed the crisis of the fever, and a severe intestinal hemorrhage followed, after which her temperature dropped and remained normal for one week, and her condition was most encouraging during this time, when she ate a raw apple, and within three or four hours a small intestinal hemorrhage occurred, her temperature came up again, and she died within twenty-four hours. This, to my mind, was clearly the result of what she ate, and I recite it only because of the peculiarity of the temperature remaining normal after the first hemorrhage.

A case similar to this one, in regard to the fever dropping, was in a woman seven and a half months pregnant, who gave birth at the end of the third week, and from the hemorrhage or depletion the temperature dropped to normal and never came up any more. The child lived, and is now a boy twelve or thirteen years of age.

Several cases I have attended began abruptly, many of them with rigors, which were not in any way malarial, and some of these cases with abrupt beginnings had abrupt endings; others that have a gradual onset have an abrupt ending, or end by crisis without any special features, such as hemorrhage, etc. Also some of these cases that begin abruptly end with a classical temperature, or by lisis. I have also seen many cases begin abruptly with a malarial chill, and after a few days' treatment with quinin assume a typical typhoid character and recover by lisis after an illness of from three to eight weeks. These are the cases that I believe are frequently injured by heavy doses of mercury. I have seen so many serious hemorrhages follow the administration of large doses of mercury or the ingestion of solid food that there is not the slightest doubt in my mind that these things may, and frequently do, cause harm. I can recount as many as eight or ten cases that were convalescing nicely and were beginning to have the ravenous appetite which is common at this stage, and within a few hours after taking solid food have a fatal or serious hemorrhage or perforation.

I have seen as many as six or eight cases that died from hemorrhages which I felt sure were caused by the giving of calomel in moderate or large doses. One case, I recall, was under my care and had been for more than two weeks. As is common in these cases, he did not consult a physician during the first six or seven days of his illness. He

insisted that he was "bilious" and needed calomel. I put him off from time to time, yet he was not improving and became impatient. So he told me that he was going to take a course of calomel himself, and that he had already sent to the drug store and purchased it. I told him that if he was going to treat himself I would drop out of the case, and I did for two days, when early one morning his wife sent for me to come by, saying she wanted to see me about her husband, as he was not getting along well. I sent her word that I would have nothing more to do with the case till her husband would follow my instructions and she would see that he did it. I took my own time about going to town that morning, but in an hour or two after the first messenger a second messenger came and urged me to come at once, as the man had had a fainting spell. The fact of hemorrhages was not mentioned by either messenger, but when I arrived at the house I found that the patient had taken the calomel two nights before, which was followed by a hemorrhage in about eighteen hours, and this continued till he had swooned from loss of blood. He died in less than two days from this time.

Another case in which I predicted a hemorrhage was a young man who was taking treatment from a neighbor, who had the reputation of knowing how to treat ordinary "bilious" attacks, and who charged little or nothing for his services. An interested neighbor told me how the young man acted, gave me his symptoms as best he could, also the treatment he was under. Sufficiently accurate was his description that I diagnosed typhoid fever and predicted a hemorrhage, which came in less than two days, death following within another two days.

A case of special interest to me was a young lady who had been under the care of two other physicians, one for only a day and night, as she was away from home when he was called, and the other for three or four days. At 12:30 one night I was awakened by an urgent call over the telephone to come and see a young lady who was supposed to be dying. I found her with a disturbed heart and difficult breathing. I gave her some heart stimulant, and when she had partially recovered left her, as I thought, in normal condition. After a few hours, however, I was again summoned to treat her for high fever, it having been amicably arranged that I take the case. This patient

was sick seven or eight weeks, and for the first five or six weeks these "funny" spells, as she called them, would come on her at irregular intervals, ranging from one day to five or six days, and they grew more severe. Her face would assume an anxious expression, her lips become blue, and her heart become very irregular. In from one to one and a half hours her fever would run high, sometimes to $106\frac{1}{2}$ degrees, but would, under mild fever preparations, soon drop back to 102 to 103 degrees. These spells ceased when convalescence set in, and she made a good recovery. These paroxysms were not due to malaria, but were, as I suppose, the result of toxins.

I want to report some cases that have a regular remittent temperature from beginning to end, and without any malarial element in the disease. This condition is the rule in children, and it naturally has no regular line or year at which it ceases, but the cases to which I have reference are in adults, and probably more in old people than in middle life. A few cases I have seen have irregular exacerbations, e. g., higher temperature in the morning than in the afternoon or evening, and several I have seen, that have regularly two exacerbations in twenty-four hours, some have a morning and evening high temperature, others noon and midnight high temperature, and others no regularity in their exacerbations. Some of the rarest exceptional cases I have seen are those that have a normal appetite throughout the disease, which is usually light, yet the lack of appetite is one of the most constant symptoms of typhoid fever, and we may be thrown off our guard by depending on it as an invariable symptom. Not infrequently we have abnormal cravings for certain articles of food, but when we permit the patient to have them he usually is satisfied with but a few bits, and his appetite is more fancied than real, yet some have a real appetite and take a good deal of food if permitted, either of their regular, everyday food or of some special article desired.

I wish to report a case I had during last August and September of subnormal temperature from beginning to end, yet there was as much tenderness and distention as we all have in typhoid cases where the fever runs as high as 104 degrees, and the man was as sick as if his fever had been high and long continued. He was sick about six weeks, and it was ten weeks before he had enough

strength to attempt any kind of work, so great was the weakness and debility. The interesting part of this is making the diagnosis, and, had he not had a son who was sick of typhoid fever at the time, and for three or four weeks previous to his father's illness, I should probably never have known what the trouble was, but most likely would have called it a nervous breakdown, as he is a very energetic, hard working farmer, who puts in every minute of his time, from daylight to dark, sometimes even borrowing a part of the night. I was treating the son, seeing him every day and second day, and his father kept complaining of aching and having no energy, yet he claimed his appetite was about normal. I suspected typhoid, and repeatedly pretended to take his temperature, but, not suspecting a subnormal condition, did not shake the mercury down below normal, consequently always found, as I thought, a normal temperature; yet when he showed great despondency and cool skin, I thought his temperature might be subnormal, and found it 97 degrees. It continued this way for more than seven weeks, being nearer normal some mornings than of evenings, and when he began to convalesce the temperature gradually returned to normal with that irregularity that characterizes most typhoid cases which have the fever, yet with less range of temperature. In normal convalescence I have seen a range of seven and one-half degrees between morning and evening temperatures, or a temperature of $97\frac{1}{2}$ in the morning and 105 in the evening. I showed this difference myself for ten days during a relapse from typhoid fever. This subnormal case showed about one and one-half to two degrees difference between morning and evening temperatures.

There are many peculiarities in what we call normal cases, but the abnormal cases are always, or nearly always, shrouded in difficulty as to diagnosing, and the snapshot diagnostician is almost sure to make a mistake if he has one of these cases. I have reported these peculiar cases hoping that they may interest some who have had less to do with typhoid fever than I have, or who have met with fewer extreme cases. I have seen a great deal of it and have had one epidemic caused by an infected well, and witnessed the St. Louis epidemic in the fall of 1892, which was caused by an infected settling basin. From these causes, and my having had a severe attack of it myself, I have

taken special interest in the disease, and I have tried to give it a little extra thought and study.

TREATMENT OF TYPHOID FEVER.*

E. R. Dibrell, M. D., Little Rock.

We may say with reference to treatment of typhoid fever that it is a subject about which it is easy to advise, but difficult to apply. For every case presents so many characteristics which makes it a something solely unto itself; that only by following the expectant method are we enabled to pursue any line of correct procedure. We have no specific serum as yet definitely recognized, though we may confidently look forward some day to a full realization of that hope.

Chantemesse has claimed to have devised an antitoxin from the horse which, when applied, reduces the mortality to 4 per cent. His claims, however, do not seem to be duly recognized by the profession as entitled to the credit he asserts. His statistics are the best, but he is careful to pursue the methods with reference to hydrotherapy and diet which in other hospitals have reduced the mortality to $7\frac{1}{2}$ per cent and even 6 per cent. Wright, by using a dead culture of prescribed strength, has succeeded in reducing the incidence of attack to at least one-half. His recoveries in those vaccinated with his serum, who contract typhoid, show a larger number of recoveries by 50 per cent than the unvaccinated. In the event of war, where a large number of troops are liable to be exposed, and possibly in time of pestilence, the vaccination method of Wright would seem duly justified and is recommended by those who have given it more thought. But the main and most essential thing to observe is a correct diet. As for myself, I have never been able to commend the liberality in feeding recommended by quite a number of the leading men of the profession.

The sheet anchor is milk. Not only because of the variety of nutritive matter it contains, but because it is quite agreeable to the palate and to the digestion. Most of us like milk and prefer it rich. To the typhoid patient rich milk is not desirable. The fond

relative piles it too full of cream and the digestive tract, being impaired by disease, does not assimilate the rich milk to the extent it may if it be diluted. The patient should receive from four to six ounces of milk, diluted with an ounce or two ounces of lime water, every three hours. If lime water be not agreeable, most any other water may be found satisfactory, carbonated or otherwise. The stools should be carefully watched for curds, and, if found therein, the milk should be further diluted or diminished in quantity. Buttermilk is quite agreeable to many patients and can be substituted for the sweet milk. My experience is not so favorable as a rule to the buttermilk, for in many patients it seems to contribute to tympanites, which we should try to guard against.

Broths of beef, mutton or chicken may be substituted for milk, if for any reason milk be found to disagree. It is not a bad plan to alternate the milk with broth mixed with gruel of some kind. Orange juice or lemon juice mixed with albumen of egg also serves an admirable purpose in many cases. Any simple article of diet such as these may be used, but I desire to emphatically advise against solid foods. I am aware that there is a tendency of recent years to enlarge the dietary, permitting the patient to partake of anything his appetite craves. I saw once a fatal perforation produced by partaking of beans, and on account of the proverbial reputation of beans for producing flatus I have conceived a prejudice for even bean soup. My inclination is that more patients are overfed than underfed. I believe that slight underfeeding will result in a larger percentage of recoveries, and I am thereby governed accordingly.

Water should be given freely. The patient should be allowed to drink it "*ad libitum*" and should be urged to partake of it. It favors the elimination of the poison by the emunctories and keeps the secretives active. A physician in Detroit has reported excellent results in his practice by coloring the water with milk, which only does he allow for nutriment. Water should be used externally, most classically, probably after the manner of Brand; but in private practice, from which standpoint I desire to speak and argue, we may accomplish equally as good results from sponging. One or two spongings, at least, should be given daily, even though the temperature be lower than 102 degrees. If

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it exceeds this point it should be applied as often as every three hours, as a rule. To me it does not seem essential that the temperature should be low. The main benefits are from the heat abstracted in the evaporation of water, and, if the patient is refractory to the application of cold, tepid water is quite satisfactory. It is a good plan to use soap in the water at least once daily, on account of its cleansing properties. The cutaneous pores are thereby unstopped and afford easier perspiration.

An ice cap should be kept on the head and, except in tympanites or hemorrhage, need not be placed on bowels. I notice that the continual application of ice to the abdomen seems to impair digestion, and in one case, at least, the colicky pains and digestive troubles were relieved by removing the ice bag from the belly. The patient finds it very uncomfortable to have you making continued cold applications to the bowels. I don't think I could digest my dinner with a great big wad of ice over my stomach.

The oil cloth on the table may be improvised to take the place of tub, and the patient is not disturbed and made nervous by being conveyed to the tub and again taken away. By bathing we reduce temperature, stimulate pulse, calm nervousness and contribute to the general comfort of the patient.

I am not of the opinion that any drug has a need to be used in typhoid fever, except it be given symptomatically. Turpentine from time immemorial has been the vogue, but I am not partial to it. Salol and kindred drugs are given by most everybody, with the idea that they have an antiseptic effect, but I have been impressed by the necessity of stopping the administration of salol, because it so frequently impairs digestion. If tympanites occurs it is most effectively relieved by restricting or changing the nourishment, by the neglect of which we only increase the trouble rather than relieve by depending on turpentine or corresponding drugs to relieve. A simple laxative is here of assistance, but of purgatives I fight shy, believing that constipation is desirable. Beyond the giving of a daily enema, the bowels should be seldom tampered with. A morning evacuation contributes to the comfort of the patient and expedites recovery.

Now, I realize I step on tender ground when I speak of calomel. There are seldom

instances when it is not given at the beginning. I may concede at this time it does good. But if it be applied with a view of its so-called antiseptic properties, we are likely to do harm. I have thought, in several cases of perforation I have noticed, that the doctor was too handy with his calomel. If given at all it should be in very minute doses, say the one-tenth or one-twentieth grain, and repeated until the bowels move, or the vomiting or tympanites is relieved. Hemorrhage calls for an ice bag to the abdomen and the administration of morphin, the stopping of all food for a season, and do not be tempted to use stimulants for fear of a weak pulse in hemorrhage. Don't drive out the clot from the severed vessel if you can help it. People usually recover from hemorrhage. I have known doctors who considered it a good omen. I admit, however, I am not surgeon enough to like the sight of blood if it comes gratuitously. I am in favor of giving calcium chloride for hemorrhage. I believe it staunches the flow by its well-known physiological effect.

Diarrhea should not be encouraged. Within four or five stools daily we may feel safe. More than that needs attention. Opium or bismuth suffices to check, and are the drugs which should be relied on. Opium serves a better purpose than any other drug to quiet the nervousness, to produce sleep or quell the pain.

Good whiskey saves the lives of many, when by reason of delirium or weakness its services are indicated. I have no sympathy with the opposition to its use coming from sentiments of prohibition if it be needed as a medicine. Now, as to individual authorities, Tyson, Deaver, Ortnier, Hare, Osler, every one of them speak of alcohol as a food, and I don't believe that those I have quoted would say so if it were not true.

Of perforation I have no reason to speak. I confess to difficulty in recognizing its occurrence. The text-books make it plain. To me it is not easy. I am not aware that it can be statistically reported from this neighborhood, though I should like to be informed if it has.

In the main I would say that a good doctor, a good nurse and a comfortable bed are necessities. Keep the patient at all times supine, and remember that prophylaxis could stamp typhoid fever from off the face of the earth.

DISCUSSION.

Dr. Witt—Dr. Dibrell, during the past five or six years, has seen a number of typhoid fever cases with me in consultation, and I don't recall a single case in which he suggested the use of an alcoholic. I doubt not the doctor's sincerity when he says "good whiskey saves the lives of many," but I do doubt the truthfulness of the statement. I have thoroughly enjoyed the doctor's paper on the treatment of typhoid fever, and I suppose all agree with him. He made one other statement which I desire to heartily endorse. He says, "I have no sympathy with the opposition to the use of an alcoholic coming from sentiments of prohibition if it be needed as a medicine." However, I honestly raise the question, "Is it ever needed as a medicine?" If the drug is really needed in any case of sickness and the attending physician refuses to give it because of "prohibition sentiments," he evidently is a dishonest doctor, to say the least. If alcohol depresses the defensive powers of the human body, as Metchnikoff, Bordet, Massart and Sims Woodhead tell us it does in all infectious diseases, it seems to me the doctor might do more harm with his "good whiskey" in a case of typhoid fever than good, especially when the hope of doing any good with this drug both chemically and scientifically rests upon an insecure basis. If alcohol can be used successfully as a food in the management of typhoid or other infectious fevers, I wonder why its advocates have not demonstrated to the world that life may be sustained by its use as a food?

Dr. A. E. Cox (Helena)—I agree with Dr. Dibrell in the treatment he outlines for typhoid fever. It took me a good many years to reach the same conclusions that he has. I might vary the procedure somewhat, but in the main I think it would be an excellent method of treating this condition. I believe that very small doses of calomel, followed by saline enemas, assist greatly in eliminating the toxin. I certainly endorse his note of warning in regard to letting the bowels alone, except the enemas. I assume that he gives them every day; that is all right, I believe.

Dr. L. P. Gibson (Little Rock)—I wish to confess with the utmost humility that I do not know how to treat typhoid fever, and I

am devoutly thankful to the Divine Guidance which in the interest of my patients enables me to refrain from attempting to do that which I do not know how to do.

Dr. Shibley (Paris, Ark.)—I have nothing but commendation for Dr. Dibrell's treatment of typhoid fever, but want to ask him in regard to hemorrhage. What is his opinion of large doses of gelatine and the use of nitroglycerine in connection with his treatment, which I think very excellent?

Dr. Lindsey (Little Rock)—I would like for Dr. Gibson to tell us what his treatment is. He probably has as many cases as the rest of us. If a man comes to us with typhoid fever we have got to do something for him. Does Dr. Gibson give them medicine, or does he leave off everything? I would like to know what he does. I have enjoyed Dr. Dibrell's paper on the treatment. I believe calomel in small doses is better than enemas, say one-tenth to one-twentieth of a grain. I don't believe in turpentine and salol. Now, good whiskey, when diluted, I believe does good. I am of the opinion that whiskey and calomel are about the only remedies that do any good in typhoid fever. I believe the danger lies in feeding them too much. Now, he says buttermilk produces tympanites, but anything is likely to produce this occasionally. Buttermilk is less likely to favor it than any other food, but it will do it occasionally, and all other foods will do the same thing. I believe in the use of water internally and externally in typhoid. If there is bleeding or bloody pus with diarrhea, the less you feed the patient the better it will be for him. I believe that buttermilk, eggs and whiskey are good mixed treatment. It is a time when we need albumen and the egg gives us that, and contains a large number of calories.

I have enjoyed what Dr. Dibrell has to say on the treatment, and heartily endorse his paper. It is all right, I believe.

Dr. Dibrell—In reply to Dr. Shibley's query: It is not now believed by those whom we delight to honor, that gelatine is of any benefit in internal hemorrhage by reason of its hemostatic properties. I do not believe very much in it any more. So far as I am personally concerned, I allow patients to take gelatine internally where all the indications are met, sometimes in addition to calomel and guaiacol. In one of my cases I

found that gelatine produced tight bowels. I do not know why this should be, except that perhaps the nurse prepared it improperly; but I have always felt like I didn't want to use it any more. In my case it was certainly a disturbing element by reason of its admixture with hot soup, which was very indigestible. I don't believe that gelatine stands high now in the estimation of the medical world.

In regard to nitroglycerin, if indicated for some special reason, on account of the physiological effect, I would give nitroglycerin. I suppose it would be different with some individual cases, but I think with a vasomotor arteriosclerosis, by reason of the blood vessels not being open, nitroglycerine is indicated to assist in getting the blood away from the interior, speaking with that idea in view. At the same time it always occurred to me that possibly the nitroglycerin would not be confined to the infected area. If we could leave out the area infected, and open up just the avenues we wish, I think it would be a very good thing. I believe it is the best thing available for those cases in which I have advised its use.

One of my medical friends has abiding faith in castor oil as a valuable remedy in this condition and puts his patients through a series of heroic doses, and believes there is nothing like it.

Dr. Gibson, in reply to Dr. Lindsey—Mr. Chairman, I said I did not know how to treat typhoid fever, and I didn't treat it. In the attempted management of cases I find that

the control of the family is the most difficult problem of all. I am called to these cases occasionally, and when I find that it is typhoid fever I explain to the family that it is a self-limited disease, and that so far as I am acquainted with the investigations of its nature and treatment, there is nothing that will arrest its progress, or any medication that will assist materially in bringing about a milder attack, or abort it altogether. I explain to them why medicine is not necessary, I get a good nurse and trust to hygienic management. So far as my experience extends, I have treated case after case without giving a dose of medicine. In recent years this has been my usual procedure. My observation teaches me that good nursing, hygienic surroundings, comfortable bedding, fresh air and nourishment are paramount. Patients are not all going to die if they are kept still, quiet and free from anxiety as much as possible and not dosed. In the way of food, what is easy to digest by some will not be tolerated by others. Each case is an individual study. If buttermilk produces flatus, then by all means let it alone. But, as I said before, the hardest thing in the world is the management of the family. The injudicious and injurious medication is due more to the cowardice pure and simple of the physician than to the importunities of the family for more drugs. As to what is best to do for the family I will not detail, but when I find that I cannot control the family I withdraw from the case.

THE JOURNAL

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

Read Dr. Knopf's article on the Owen bill and go after your congressman and United States senator.

You will notice that our County Society column does not appear this month at all. It is not the editor's fault, but someone in each county is failing to do his duty.

Mr. Abraham Flexner, the representative of the Carnegie Foundation, has surpassed the smashing of Carrie Nation's hatchet and the "big stick" in his dissection of the medical colleges in the United States and Canada. He has centered on the histological end, and dismembered the gross anatomy with an axe.

If every member of the State Society will read the report of the Bureau of the Census

in this issue of the Journal they will see the urgent need of a State board of health and vital statistics law for Arkansas. And, brother, if you mean business, don't await the calling together of the legislature, but go to work on your representative at once, so he will know what you want and will know how to act at the proper time. Let every doctor in the State get busy.

THE OWEN BILL FOR THE ESTABLISHMENT OF A FEDERAL DEPARTMENT OF HEALTH, AND ITS OPPONENTS.

S. Adolphus Knopf, M. D., Professor of Phthisio-Therapy at the Postgraduate Medical School and Hospital, New York.

Anyone who is familiar with the workings of governmental departments of health such as exist abroad, who has seen or experienced the sanitary benefits bestowed upon the people by the Reichs-Gesundheitsamt of Germany (Imperial Department of Health) the Conseil Supérieur de Santé Publique de France, and the similar institutions of most European governments, cannot help feeling amazed that any opposition should exist to the establishment of a federal department of health in this country. This amazement becomes all the greater when one considers some of the elements of which the opposition to that measure is composed. There is, for example, the New York Herald, a large and influential newspaper with an honorable career and a brilliant record for advocating everything that is conducive to the public welfare. Only in this particular instance has it allowed itself to become the mouthpiece of principles to which it is in general opposed—that is to say, principles and measures whereby the good of the people at large and the progress and welfare of mankind are hindered, and the lives of individual American citizens endangered. This particular newspaper is independent of any political party or professional or religious association which might prejudice its point of view, and still it opposes a measure whereby all citizens of the country would benefit. The writer cannot help thinking that this powerful news organ has not informed itself thoroughly of the real purpose and function of a federal department of health, and in its attack upon a large

body of men such as compose the American Medical Association, the American Public Health Association, the National Association for the Study and Prevention of Tuberculosis, the American Association for the Advancement of Science, and the various medical academies of the country, it is certainly misguided. It is to be hoped that the distinguished editors of the New York Herald will soon see that in their attitude toward the Owen Bill they are not on the side of the people but are working against the welfare and interest of the masses.

The principle of the Owen Bill, establishing a Department of Health, has been endorsed by the President of the United States, by General George M. Sternberg, Surgeon General of the Army (Retired) and Rear-Admiral Charles F. Stokes, Surgeon General of the Navy, by General Walter Wyman of the Public Health and Marine Hospital Service, by Dr. Harvey W. Wiley of the Bureau of Chemistry, by Governors of States, by the Conference of State and Territorial Boards of Health, by the United Mine Workers of America, by the National Grange, by the Republican and Democratic platforms, and by numerous other organizations.

What is the principle of this bill which is advocated by thousands of men trained in medicine or sanitary science and interested in the public welfare?

Section 7, which embodies the main purpose of the Owen bill, reads as follows: "That it shall be the duty and province of such a Department of Public Health to supervise all matters within the control of the federal government relating to public health and to diseases of animal life."

Section 2 of this bill deals with the unification under a secretary of public health of the various agencies now existing which affect the medical, surgical, biological or sanitary service.

There has recently been formed an organization which calls itself the "National League for Medical Freedom." It has for its purpose to combat the Owen bill; it is opposed to the establishment of a federal department or bureau of health. The name of this organization is certainly, if not intentionally, misleading. It cannot claim to battle for medical freedom, for there is not a word in the entire bill which could be interpreted as limiting the practice of medicine to any particular school. Their claim that the establishment of such a bureau of

health would have any resemblance to a medical trust is entirely unfounded.

The life insurance and industrial insurance companies which advocate this bill certainly have no desire to limit medical freedom or to repress any system which offers the chance of lengthening human life. These companies do not favor medical partisanship, and their sole interest is to prolong the lives of their policy-holders by whatever means possible. Their actuaries state specifically that they believe human life could and would be lengthened by the establishment of a federal Department of Health.

Lee K. Frankel, Ph. D., representing the Metropolitan Life Insurance Company, is a member of the Committee of One Hundred, appointed by the American Association for the Advancement of Science to further the propaganda for the establishment of such a department. Neither the above mentioned great newspaper nor any of the leading spirits of the "National League for Medical Freedom," all of whom, I regret to say, have allowed themselves to ascribe the worst motives to the members of the committee, will deny that the names of the officers of this committee show that it is thoroughly representative of the highest type of American citizenship. The officers of the Committee of One Hundred are:

President, Irving Fisher, Ph. D., professor of political economy at Yale University.

Secretary, Edward T. Devine, Ph. D., LL. D., professor of social economy, Columbia University, and secretary of the New York Charity Organization Society.

Vice presidents are:

Rev. Lyman J. Abbott, D. D., LL. D., emeritus pastor of Plymouth Church, editor of The Outlook.

Jane Addams, A. M., LL. D., founder and head worker of the Hull House Settlement; ex-president of the National Conference of Charities and Correction.

Felix Adler, Ph. D., professor of political and social ethics, Columbia University; leader of the New York Society for Ethical Culture.

James B. Angell, A. M., LL. D., professor of modern languages and literature and president emeritus of the University of Michigan.

Joseph H. Choate, LL. D., D. C. L. (Oxford), diplomat and United States senator.

Charles W. Eliot, A. M., LL. D., president emeritus of the University of Harvard.

Rt. Rev. John Ireland, LL. D., archbishop of St. Paul.

Ben B. Lindsey, judge, reformer and author, Denver, Col.

John Mitchell, president of the Labor Union of America.

William H. Welch, M. D., LL. D., professor of pathological anatomy, Johns Hopkins University.

Need I say anything in defense of the Committee of One Hundred after having given the names of its officers?

Direct and most unkind comments, not to use a stronger term, have been directed especially against one vice president of the committee, representing the medical profession. I refer to Dr. William H. Welch, M. D., LL. D., president of the American Medical Association. Those who know Dr. Welch, and even those who only know of him, would justly think it absurd if I should see the need to say even a word in defense of this master of medical science. To us it is indeed difficult to understand that there could be any man or woman in this land capable of speaking ill of Dr. Welch. There is no name in the medical world which is more honored in this country and abroad, no medical teacher more admired, no one who has a larger following than this Johns Hopkins professor of pathology, and no physician more beloved and looked up to as representing all that is best and noblest in the profession than Dr. Welch. If there is any man in the American medical profession who is unselfishly devoting his high intelligence, his time and his means to the public welfare, it is Dr. Welch. Gladly do we acknowledge him as our leader.

To accuse the president and members of the American Medical Association of selfish motives in advocating the establishment of a federal Department of Health is absurd. If there ever was an unselfish movement inaugurated, it is this one. It is a movement by physicians for the reduction of disease, which ipso facto means a movement against their financial interests.

The writer is a member of the regular profession. He nevertheless would not wish for a moment to limit the freedom of any citizen to choose his physician from some other school or cult, providing the individual assuming the function and responsibilities of a physician had the training necessary to prevent him from endangering the life of

his patient by lack of medical knowledge or skill.

The official mouthpiece of this "National League for Medical Freedom" is Mr. B. O. Flower, who had heretofore the reputation of a fighter for everything involving the spiritual, social and physical progress of humanity, and it is inexplicable to many of his admirers how he can lead a movement opposed to the improvement of the health of the nation. The vast majority in the ranks of this so-called "league," though they may be well meaning, noble and earnest, are not men and women who have toiled patiently for years in order to acquire the thorough scientific medical training which enables one to assume that great responsibility of the care and treatment of the sick. They are unable to appreciate the inestimable value of federal help in preventing disease. These people are blindly following certain individuals who designate the regular profession as a medical trust, and accuse the thousands of noble men and women who are devoting their lives to the alleviation of human ills of a desire to monopolize medical practice. The establishment of a federal Department of Health would mean pure food, pure medicine, control of plagues and epidemics, the advancement of medical science, and through it the improvement of the health and increase of material wealth of the nation. It is said that many of the individuals opposing the Owen bill are commercially interested in the manufacture of drugs or patent medicine, of which latter the American people swallow about \$200,000,000.00 worth annually. Whether it is true or not that the National League for Medical Freedom is backed financially by drug manufacturers and patent medicine concerns I am not prepared to say; yet even these men have nothing to fear from a federal Department of Health if the drugs they put on the market are pure and the claims made for patent medicines do not delude the public or endanger its health. The element which clamors most loudly for medical freedom is composed in many instances of men and women who have attended one or two courses of lectures or got their "degrees" without any training at all, and have developed into "doctors" and "healers" in a most remarkably short space of time.

Because the American Medical Association has always advocated a thorough medical education, is pleading constantly for pure

drugs, is opposed to quackery, patent medicines and nostrums, its 40,000 members are considered a medical trust. Yet it is in the ranks of this very American Medical Association that are found the greatest number of unselfish devotees to preventive and curative medicine. It is among this association that are found the men who have added the greatest glory to the medical and scientific reputation of this country. America's greatest surgeons—Marion Simms, Gross, Sayer, O'Dwyer, Bull—were members of this association. McBurney, Jacobi, Stephen Smith, Welch, Osler and Trudeau have graced this association by their membership for nearly half a century. The heroes in the combat against yellow fever—Reed, Lazare, and the hundreds of others who have devoted their best energies and knowledge, and often sacrificed their lives for the sake of medical science—were members of the American Medical Association.

One of the most illustrious members of the American Medical Association is its former president, Col. William C. Gorgas of the United States army, chief sanitary officer at Panama, an adherent to the regular school. It is thanks to the genius, the scientific and thorough medical training of Dr. Gorgas that the formerly deadly Isthmus of Panama has now become as sanitary a region as any. A great patriotic enterprise, important to commerce and the welfare of nations, was made possible by this man. He has labored and is constantly laboring for the establishment of a federal Department of Health because he knows the inestimable benefit which such a department would bestow upon the nation.

Whatever advance has been made in medical science in America or in Europe has been made by scientifically trained men or by physicians not without, but within the ranks of the regular profession. The greatest benefactors of mankind are those who diminish disease by prevention and cure. As another illustrious example of medical benefactors, may I be permitted to cite that great trinity of scientific giants who, through their labors, have accomplished so much in reducing disease and lessening human misery in all parts of the globe? They are Pasteur, of France; Lister, of England, and Koch, of Germany; all of them aided their governments by direct participation in the governmental health departments. We are still mourning the death of perhaps the greatest

of the three—Robert Koch. I do not believe that there is, even in the camp of our opponents in this so wrongly called "League for Medical Freedom," a single intelligent individual who will deny the inestimable benefits which Koch has bestowed upon mankind through his discovery of the germs of tuberculosis, of cholera, of the spores of anthrax, or tuberculin, and through his many other equally important scientific labors. Yet, had it not been for the Imperial German Reichs-Gesundheitsamt, which is the equivalent to the institution we are striving for—a federal Department of Health—Koch never would have been able to devote his life, energy and great genius to those important discoveries through which thousands of lives have been saved in all civilized countries during the past few decades. It was while working in this governmental institution, which is doing exactly the work the Owen bill seeks the federal department to do, that Koch discovered the tubercle bacillus and the bacillus of cholera. Because of the discovery of the comma bacillus we no longer have those fearful cholera epidemics which formerly decimated our own and other countries. This disease can now be easily diagnosed, and by proper quarantine its mortality can be reduced to a minimum. And what shall we say of the progress that has been made in the fight against tuberculosis because the federal Department of Health of Germany enabled Koch to do research work and thus discover the bacillus of tuberculosis to be the primary and only direct cause of the disease? As director of the Hygienic Institute and member of the Reichs-Gesundheitsamt he inaugurated that wonderfully effective campaign against tuberculosis whereby the mortality from this disease in Germany has been reduced to nearly one-half of what it was prior to the discovery of the tubercle bacillus.

Under Koch's inspiration and guidance, and in the same institute, many great scientific discoveries of incalculable value to humanity were made. Foremost among them are the works of Ehrlich, one of Koch's most celebrated pupils, who recently gave to the world a new remedy which promises to prove a specific in an affliction from which mankind has suffered for centuries.

As coworker in the Kaiserliche Gesundheitsamt and the Institute for Infectious Diseases, affiliated therewith, we must also mention Behring, the discoverer of the anti-diphthe-

ritic serum. Thanks to the discovery of this serum, thousands of young lives are now saved which would formerly have fallen victims to the terrible disease known as malignant diphtheria. This was made possible by the opportunity given to the workers in the Reichs-Gesundheitsamt and Imperial Institute for Infectious Diseases.

Can there be any better argument in favor of the establishment of a federal Department of Health?

NITRATE OF SILVER FOR WHOOPING COUGH.

Editor Journal:

I have noticed marked relief in the treatment of whooping cough after swabbing fauces with 20 per cent solution nitrate of silver, and should like you to publish a few words in this regard.

The first case noticed was a girl six years of age, with severe whooping cough, which was aggravated on about the tenth day by appearance of follicular tonsillitis. The tonsils did not respond to treatment after five or six days, and were very much hypertrophied, which necessitated postponement of their removal. The nitrate of silver solution was then resorted to, and the diseased tonsils, as well as the whooping cough, which had been constantly growing more violent, responded to treatment promptly. Since this case I have swabbed fauces of other whooping cough patients (without tonsillitis) and noted considerable amelioration in the aggravating symptoms with which all family physicians are familiar.

Not having run across any literature on this mode of treatment, and having little time to read, I ask the readers of the Journal to comment upon the article, and suggest a trial of this remedy.

L. D. WADLEY.

Bigelow, Ark.

METHODS OF DISSEMINATION OF TYPHOID FEVER.

Professional opinion as to the means of transmission of typhoid fever has undergone much modification of late years, and inductive reasoning on inadequate data and with insufficient digestion of facts and theories has caused an oscillation, not to say vacillation, of views which is much to be regretted. Limiting our-

selves to the last fifty years, we may distinguish three stages in the conception of the means of dissemination of the disease. In the first stage the fever was regarded as noncontagious, and, further than the very vague recognition of the fact that there must have been some *contagium vivum* which was somehow widely distributed, there was no prevalent conception as to the exact means of distribution or any expectation that such distribution could be prevented. Next, with the discovery of the bacillus, and even before, came the conception of typhoid fever as mainly a water-borne disease. In the third period, in which we still remain, the tendency is to lay special stress on one or more of the many means of conveyance, such as ice, flies, personal contact, milk and other foods, recovered bacillus carriers, etc. It is of the utmost importance to remember the tendency of humanity to pendulumlike movements of opinion, the danger of generalizing from individual experience, the fact that the typhoid bacillus is rarely discoverable in a medium of conveyance, and the reflection that we are too prone to condemn the knowledge of yesterday and to be cock sure of the knowledge of today.

If we approach the subject in a properly humble frame of mind, we must acknowledge that our criticism of the ancient clinicians for not recognizing typhoid at all is a compliment, not so much to our own powers of observation as to their attainments under adverse circumstances along various other lines of professional skill. We must also admit that, though contact infection now seems indubitable when typhoid fever has become rather an infrequent disease, and when water and other routes can often be positively excluded, it could not have been demonstrated unless by the merest chance, when the disease was ten or twenty times as common, before water could be tested or was commonly marketed in ways such as practically to eliminate this route, and before other means of exclusion were available. Contact infection is decidedly uncommon, even relatively to the present reduced incidence, and, from the standpoint of the recent past, the statement of an acute observer (in 1887) that in thirty years he had never seen a case that was even apparently of contagious origin, was practically correct. So, too, the vague notion as to the means by which typhoid fever was actually spread was far better than the notion that yellow fever was contracted from fomites or that malaria, as its name implies, was due to some exhalation

from marshes. Even today, in relation to typhoid fever itself, we can draw the moral of being noncommittal and unbiased until experiment and experience agree and afford a basis for positive assertions.

The conception of the second period of typhoid fever as a water-borne disease was to some extent incorrect, not so much essentially as because it implied the idea of typhoid fever as an intrinsically intestinal disease and because, in laying stress on the feces as the original source of infection, it tended to ignore the urine and various other discharges, and because it failed to allow for the fact that such infectious matter might give rise to a fresh case quite directly, and, secondarily, by entering other media than a water supply. The danger today is not that we shall ignore these other media of infection, but that, in the enthusiasm of their demonstration, we shall forget that, in a great epidemic or even a moderate endemic, the water supply should still be the central subject of suspicion. At present an important basis for the attack on the conception of typhoid fever as an essentially water-borne disease is the failure of the city of Washington to secure the expected result from its comparatively new system of water works. The keen disappointment felt that a before and after picture could not be made in this case has led to the expression of various extreme views. Some have condemned the construction of the works, others the entire system of infiltration, while still others have drawn the conclusion that typhoid fever should not be considered as in any specific sense a water-borne disease at all. Even in the temperate articles published on the subject the reader might, if he were not critical, get one of these ideas by apparent implication.

Let us not overlook the facts that every massive epidemic which has been carefully studied has been proved almost beyond doubt to have been due to infection of a water supply, and that, with extremely few exceptions, every city that has either avoided a highly polluted stream or has introduced almost any form of water filtration has experienced a sudden drop in its typhoid fever incidence. In Paris typhoid fever has become rarer than diabetes, ecchinococcus disease, or various other affections in encountering which we experience the same pride and pleasure which the naturalist does in finding a rare bug or fish. Yet the only systematic attack on the disease, barring ordinary cleanliness of a de-

gree little if any greater than characterizes our own principal cities, is with regard to the water supply. It ought not to be necessary to point out that the water supply of a particular city is not the only water from which its residents may derive typhoid infection. The seasonal incidence of typhoid alone almost justifies the adoption of the term picnic typhoid or vacation typhoid. We have known three cases from one small picnic, apparently due to a single well, but, of course, statistically charged to the city in which they occurred. Almost every city has typhoid cases deliberately or accidentally brought in for treatment after development from an extraneous source. Civilized man travels extensively, even the poorest for short distances. Niagara Falls, which has a high typhoid fever rate in spite of the fact that its population should largely have been immunized by previous attacks, drinks diluted sewage from Buffalo and the Tonawandas. The expression, "a drop in the bucket," is pretty literally applicable to the Niagara Falls water supply, for, by actual mathematical computation, it contains something more than a centigramme of human urine and something over a milligramme of human feces to the quart. About one person in a hundred of the entire population of the United States visits Niagara Falls annually, and most of them drink at least one quart of that water. Probably no other place of interest in the country, outside of the large cities, is visited by so many pleasure seekers, but it is only one of many resorts having more than doubtful water supplies which attract travelers literally by the million. Doubtless this fact explains why the drop in typhoid mortality—which is a much more accurate index than the total reported incidence—after the installation of filters by American cities has not been so marked as in Europe, where the movement has been much wider spread and where suburban water supplies are also fairly carefully guarded, not to mention the fact that our people travel more extensively and drink water more copiously than the Europeans.

Thus, there is no need to abandon the conception of typhoid as a water-borne disease. We do not for a moment question the importance of other factors which will loom bigger and bigger as our water supplies are more generally protected, but for the present, with all due allowance for flies, carriers, contact infection, etc., we feel that, barring peculiar local conditions, as in a camp with good water

and carelessly constructed latrines, much dust, poor surface drainage and improperly screened kitchens, the main point of attack must continue to be the water supply.—New York Medical Journal.

REPORTS FROM THE CENSUS DEPARTMENT, SEPTEMBER 24 AND 27.

INFANTILE PARALYSIS AND PELLAGRA—NUMBER OF DEATHS FROM EACH IN 1909 IN THE CENSUS BUREAU'S REGISTRATION AREA.

There were 569 deaths from acute anterior poliomyelitis, or infantile paralysis, 116 from pellagra, 55 from rabies, or hydrophobia, and 9 deaths from leprosy in 1909, in the death registration area of continental United States, which comprises over 55 per cent of the total population, according to the census bureau's forthcoming bulletin on mortality statistics for 1909, submitted to Census Director Durand by Dr. Cressy L. Wilbur, chief statistician for vital statistics.

It is reported that of the 569 deaths from infantile paralysis, 552 were of white and only 17 of colored persons. There was a somewhat greater incidence of disease among males and an increased mortality in August, September and October.

The bulletin states that no statistical segregation of infantile paralysis as a cause of death has been made heretofore, but the increasing importance of the disease and its wide prevalence throughout the country in the form of local epidemics render a statement of the mortality important. Like meningitis, which it somewhat resembles, it is difficult to obtain an exact separation of the deaths from the specific infectious disease, acute anterior poliomyelitis, from other infections of similar nature. Acute anterior poliomyelitis is described by the bulletin as an acute infectious disease chiefly affecting children in the first five years of life, and, while not infrequently fatal, is of even more serious consequence as the cause of more or less permanent paralysis and atrophy of muscles. Numerous outbreaks have occurred in this country, the most important of which were those in Vermont, in 1894, and in New York and Connecticut, in 1907. The 569 deaths compiled for the registration area for 1909 were widely distributed, and indicate endemic or epidemic prevalence in many parts of the country. It should be remembered, the bulletin points out, that the cen-

sus data relate only to registration sources, and that for the nonregistration States the deaths are only those returned from the registration cities contained therein.

The disease does not seem particularly to affect the large cities of 100,000 and over population.

The duration of illness prior to death was reported only in 292 of the 569 cases. In 19 of these it was 1 year or more, 1 each being reported as of 10, 14, 16, 18 and 20 years' duration. These may represent the results of old attacks, or perhaps may include deaths from other forms of poliomyelitis. There were 40 cases of duration of illness in excess of 1 month, but less than a year, 21 of which were under 2 months. The great majority of the fatal cases returned were of very brief duration, 253, or 87 per cent, being of less than 1 month. Of these there were 20 stated to be of 1 day, 22 of 2 days, 30 of 3 days, 31 of 4 days, 28 of 5 days, 18 of 6 days, 24 of 7 days, 10 of 8 days, 5 of 9 days, 22 of 10 days, only 1 of 11 days. The tendency to report in round numbers, or to give even weeks, somewhat vitiates the exact statements; the average duration of all the fatal cases with duration of under 1 month is 7.2 days.

The bulletin states that among the rarer diseases included in the epidemic group may be found some whose occasional occurrence awakens more interest and popular fear than many hundred times as many deaths from more accustomed causes. Among these there were, during the year 1909, 3 deaths from typhus (typhus fever), 79 deaths from smallpox, 2 deaths from plague, and 9 deaths from leprosy. No deaths occurred from Asiatic cholera or from yellow fever.

In the second subdivision of the class of general diseases there were compiled 8 deaths from glanders, 14 from anthrax (malignant postule), 55 from rabies (hydrophobia), 38 from actinomycosis, trichinosis, etc., 116 from pellagra, 86 from lead poisoning, and 5 from other occupational poisoning.

Pellagra is a new disease in the mortality statistics, the bulletin states. Only 23 deaths were returned from this cause for 1908, and no deaths for any previous year, except 1 for 1904. Such deaths undoubtedly occurred, but were not recognized and were consequently returned as due to other causes or as of unknown cause.

As the registration area includes only a small portion of the country in which pel-

lagra is most prevalent, it would seem that many hundreds and perhaps thousands of deaths from this disease must occur each year in the United States. How many can never be known until systems of complete registration of deaths are more generally adopted.

**WHITE PLAGUE'S DEATH RATE DECREASES—
MORTALITY FROM CONSUMPTION, CANCER,
TYPHOID, ETC., IN 1909 SHOWN IN CENSUS
BUREAU'S BULLETIN.**

While the total number, 81,720, of deaths from tuberculosis in 1909 was greater than for any preceding year, and exceeded by 3,431 the number, 78,289, compiled for 1908, the death rate, in the census bureau's death registration States and cities, showed a decline from 173.9 in 1908 to 167.5 per 100,000 estimated population in 1909, as reported in the forthcoming census bureau bulletin on mortality statistics prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The 1909 rate is the lowest on record for the census registration area, although it should be remembered that the rates for this area, to which large additions were made in 1906, 1908 and 1909, may not be strictly comparable throughout the period covered with respect to constitution of population. The addition of the new registration State of Ohio for 1909, for example, by bringing in a considerable rural population with a normally low death rate from tuberculosis, would tend to depress the death rate from this cause for the registration area as a whole.

It is remarkable, the bulletin states, that the aggregate of registration cities, which is not affected by the transfer of cities from the group of cities in nonregistration States to the group of cities in registration States, shows practically the same number, 54,461, of deaths for 1909 as for 1908, which was 54,466, or a decrease of only 5 deaths.

DEATHS FROM TUBERCULOSIS DECREASING.

Excluding Ohio, which is shown only for 1909, 11 of the 17 registration States for which data are given presented numerical decreases in deaths from tuberculosis for 1909 as compared with 1908, the largest being for New York (415) and Rhode Island (107). Deaths from tuberculosis increased in Washington (91) and California (78) among the 6 States showing more deaths from this cause. Among the larger cities the

chief fluctuations were increases of 85 for St. Louis, Mo., 61 for Minneapolis, Minn., 58 for Toledo, O., and 56 for New Haven, Conn., significant from their small amount, while decreases of 222 occurred for New York, N. Y., 194 for Philadelphia, Pa., and 149 for New Orleans, La.

Cancer showed a much greater proportional increase in the number of deaths than tuberculosis, rising from 33,465 for 1908 to 37,562 for 1909. The death rate increased from 74.3 to 77, the latter being the highest crude death rate from cancer thus far recorded for the registration area of the United States.

It should be remembered, the bulletin points out, that cancer is one of the diseases having a peculiar age distribution for which the study of crude death rates is apt to be especially misleading, and until a careful analysis can be made of the data, with reference to the population, details available after the compilation of the census of the present year, it will be wise to limit inferences to the fact that the number of deaths so reported and the crude death rate from this cause show a constant tendency to increase from year to year. The probability of more accurate statement of this disease as a cause of death by attending physicians must be taken into consideration, and the fact that the saving of lives from tuberculosis and other preventable diseases of early or middle life would leave more persons subject to cancer at the cancer ages, and thus increase the total number of deaths from this cause and the crude cancer rate, although the actual incidence of the disease at the various periods of life may not have been altered materially.

The distribution of cancer according to location on the body shows little change except a diminution of the residual group due to more accurate statements of physicians. All certificates of death by cancer should state, whenever ascertainable, the site of the origin of the disease.

The typhoid fever death rate for 1908 was the lowest recorded since the series of census annual reports was instituted, and the rate for 1909 shows a marked reduction from that of the previous year. It is nearly one-third less than the rate shown for the five-year period 1901-1905 (32.2), although still more than twice as large as that of England and Wales. The success already obtained in its reduction should encourage further progress in this direction until residence and travel in

this country shall be as safe in this respect as in the best regulated countries of Europe, where the disease is becoming practically negligible as a menace to public health.

FEWER DEATHS FROM INFLUENZA—PNEUMONIA AND TUBERCULOSIS STILL HEAD THE LIST OF FATAL DISEASES.

There was a noteworthy decrease in the number of deaths from influenza, commonly called "grip," in 1909, in the census bureau's death registration area, representing over 55 per cent of the estimated population in continental United States in the year in question, is to be seen in the census bulletin on mortality statistics for 1909, prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The deaths from influenza numbered 6,649 in 1900, as compared with 9,989 in 1908, in the registration area. This is considered remarkable since bronchitis and pneumonia, diseases classified under respiratory diseases, but actually closely associated with influenza, showed, for bronchitis, about the same number of deaths, and for pneumonia a marked increase for 1909.

Pneumonia, in the aggregate, caused more deaths than other diseases, except tuberculosis. The number increased from 61,259, or 136 per 100,000 population, in 1908, to 70,033, or 143.6 per 100,000 population, in 1909, the latter number being only 7 less than the number, 70,040, from tuberculosis of the lungs. The rates for both years were lower than for any previous year of the decade.

DEATH RATE AMONG CHILDREN—A GREAT PART OF THE DISEASES ARE PREVENTABLE, A CENSUS BULLETIN STATES.

Of the total number of 732,538 deaths in 1909, in the census bureau's death registration area, representing a fraction over 55 per cent of the provisionally estimated population of continental United States, no less than 196,534, or 26.8 per cent, were of children under 5 years of age, and 140,057, or 19.1 per cent, were of infants under 1 year of age. It appears in the census bureau's forthcoming bulletin on mortality statistics for 1909.

In general, one death out of five that occurred during the year 1909 was of an infant under 1 year of age, and a little more than one death in four, or about 27 per cent, was of children under 5 years of age.

The registration cities shower slightly higher and the rural part of the registration States showed slightly lower proportions than those for the registration area as a whole.

The proportion of deaths of children under five years of age to the total deaths that occurred in the year is far greater than that of any other five-year period, a fact which, the bulletin states, does not indicate necessarily that the actual mortality or death rate per 1,000 persons living is higher than that at certain other periods, especially those at the more advanced ages. The early years of life, however, are of special importance, not only because of the large number of deaths that occur therein, but also because, perhaps in greater proportion than that of any other period of life, a great part of these deaths are entirely preventable, and the causes which produce them are not being successfully combated. Great progress has been made in the reduction of infant mortality in England and other foreign countries in recent years, and a special organization has been formed lately in this country, known as the American Association for the Study and Prevention of Infant Mortality, whose object is to co-ordinate all the sanitary agencies available for the special purpose of reducing the number of preventable deaths of infants. It would be extremely desirable for such an important purpose that reliable statistics of infant mortality should be available for the entire registration area, and, as soon as possible, for the entire United States, with which the registration area for deaths will ultimately be coterminous. The correct statement of infant mortality, however, which is a technical term denoting the number of deaths of infants under one year of age per 1,000 living births, depends on the accurate registration of births, which is scarcely to be found in the United States, the bulletin states.

"For individual cities it happens frequently that the presence of an institution in which many deaths at advanced ages occur lowers the proportion of deaths of infants and children, although the infant and child mortality may be fairly high.

"As stated by Dr. Arthur Newsholme, medical officer of the local government board of England, in his recent report on 'Infant and Child Mortality:'

"The subject of child mortality is of national importance. One out of three deaths at all ages occurs under five years of age, one

out of five during infancy, one out of nine total deaths at all ages occurs under three months of age.

"Infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions.

"A heavy infant mortality implies a heavier death rate up to 5 years of age, and right up to adult life the districts suffering from a heavy child mortality have higher death rates than the districts whose infant mortality is low.

"A careful study of the death rate of England and Wales during the last fifty years at each of the first five years of life leaves it doubtful whether any appreciably greater selection or "weeding out" is exercised by a heavier than a lighter infant mortality. Any such effect, if it exists, is concealed behind the overwhelming influence exerted by the evil environment to which children are exposed in districts of high infant mortality. It is strictly correct, therefore, to say that a high infant mortality implies a high prevalence of the conditions which determine national inferiority.'"

LOWEST DEATH RATE ON RECORD.

The death rate in the death registration cities and States of the United States dropped to 15 per thousand of provisionally estimated population last year, according to the forthcoming United States Census Bureau's bulletin on mortality statistics for 1909, which has been submitted to Director Durand by Dr. Cressy L. Wilbur, chief statistician for vital statistics.

In 1908 the death rate in the census bureau's registration area was 15.4 per thousand, and in the bureau's annual report for that year, issued last spring, it was stated that it is evident that an area of low mortality has begun.

The death rate for 1909 is, the bulletin states, lower than that for any previous year of registration, and probably is the lowest that ever occurred in the history of the United States.

It is stated that the mortality was distributed with more than ordinary uniformity throughout the year 1909, and no epidemics of other than a very local extent were found to have occurred.

ACCIDENTAL AND SUICIDAL DEATHS.

External causes, other than suicide, were responsible for 47,135 of the deaths reported

for the census registration area for 1909, it is stated in the census bureau's annual bulletin on mortality statistics for 1909, now in press. The death rate declined from 97.9 to 96.7 per 100,000 estimated population.

The total number of deaths from homicide, as reported for 1909, was 2,854, a decrease of 149 from the number compiled for 1908. Not all deaths from homicide are specified, so that the total number that actually occurred would be in excess of that compiled. The increase in the death rate, 5.9, from this cause for 1909 over the annual average rate, 2.9, for the five-year period 1901-1905 is probably due largely to greater precision in the returns in this respect.

Among the causes of accidental deaths, in the order of numerical importance for the year 1909, were the following: Railroad accidents and injuries, 6,659; drowning, 4,558; burns and scalds, 3,992; injuries at birth, hereafter to be classified under diseases of early infancy, 3,508; injuries by horses and vehicles, 2,152, not including injuries by street cars, 1,723, and automobile accidents and injuries, 632; injuries in mines and quarries, 1,997; inhalation of poisonous gases, including conflagration, 1,837; other accidental poisoning, 1,779; accidental gunshot wounds, 944; heat and sunstroke, 816; cold and freezing, 251; lightning, 150.

There were 1,174 fatal injuries by machinery, chiefly in factories, but the large number, 10,108, of accidental traumatism of unspecified nature makes it necessary to consider many of the figures given above as only minimal, and it is important that the means of injury be specified in all returns of death from accidental violence.

The slight numerical increase in the deaths, 8,402, from suicide registered for 1909 over the number, 8,332, for 1908 is less than the relative increase of the estimated population of the registration area, so that the death rate decreased from 18.5 to 17.2 per 100,000 population. The most common means of suicide for the year was poison, 2,464, followed by firearms, 2,395; hanging, 1,215; asphyxia, chiefly by illuminating gas, 989; cutting instruments, 536; drowning, 507; jumping from high places, 156; crushing, 84; and other unspecified means, 58. Undoubtedly many deaths from suicide fail to be reported, so that they can be compiled under this head, but the increasing precision of statement of the nature of the death in cases of deaths from violent causes renders the statistics

more accurate from year to year, and thus accounts for some of the apparent increase in the death rate from suicide.

PREVENTION OF TUBERCULOSIS IN THE PHILIPPINES.

Another step forward is to be noted in the progress of preventive medicine in the Philippines. This is expressed in the organization of the National Society for the Study and Prevention of Tuberculosis in the Philippine Islands. In many respects one feels agreeably surprised to find that in this comparatively new country (that is, from an American point of view), medical and the medical sciences are so much to the front and are of such a high standard. From the central government's having a more direct control of sanitation and quarantine than is the case in America, and from the fact that good health is so extremely important and desirable in the tropics, this condition of affairs is in a measure to be expected among the Americans and Europeans. But in spite of this, the popular support given to medical problems in general by the Americans and a great number of the Filipinos, and the good spirit in which these are received by the masses of the people, are rather gratifying. Many measures are more easily put into practice in the Philippine Islands than in America. The new National Society for the Study and Prevention of Tuberculosis in the Philippine Islands was organized and had its first meeting in the assembly room of the insular capitol building. It was presided over by the governor general, and the United States secretary of war, Hon. Jacob M. Dickinson, delivered an address. The organization is about equally well represented by Americans and Filipinos, and many of the latter are on important committees. The first main object of the association is one of education and the protection of the people from the infectious cases.

The association starts its work under the most auspicious circumstances. It has the undivided support of the government, the medical profession, the laity, the church (both Protestant and Catholic), and the press. It was brought out at the first meeting that tuberculosis is general throughout the Philippines, that about 20 per cent of the people of the islands are infected in one form or another, and that the annual financial loss due directly to tuberculosis is from \$20,000,000.00 to \$60,000,000.00. The annual death rate in

Manila from tuberculosis is from five to six per 1,000. In a country whose climate is never severe, where there is little abject poverty and plenty of fresh air, this condition of affairs is hardly to be expected. Moreover, the houses are built so that they can be thrown wide open to both sun and air. But the filthy condition in which the people live, the low standard of living, with often insufficient food, and the decided overcrowding in the homes are taken to be the principal factors in the prevalence and spread of tuberculosis. It is even said that the condition in which the inhabitants sleep is directly responsible for the major part of the tuberculosis. From six to twenty people usually eat, live and sleep in one or two small rooms. At night the house is closed up as tight as it is possible to close a nipa house. All windows, doors and cracks are closed, and a little kerosene lamp is kept burning all night to keep out the night air and to drive away the evil spirits. When there are one or two individuals with advanced tuberculosis sleeping among the others and spitting promiscuously about the place it is easy to see how the disease is spread. This overcrowding and the superstition which usually accompanies it promise to be the most difficult obstacles in the fight against tuberculosis.

Among the factors which are calculated not only to improve the general health of the people of the islands, but also to aid materially in their education, is to be mentioned, and particularly emphasized, the work being accomplished by the Bureau of Public Works. This bureau is building good roads throughout the islands, trying to establish a sanitary water supply for every community, and is draining many cholera-laden rice marshes and establishing sanitary irrigation. The attempt to give every barrio pure water is meeting with great success and widespread commendation. Unfortunately, the capacity of the bureau in this regard is by no means as great as desirable. In the municipalities and larger towns of the provinces public artesian wells are being dug just as fast as possible. In the smaller towns deep wells enclosed and covered over with concrete encasements and fitted with pumps are being installed. These are usually near the center of the town and near the American school house. It is useless to add that the health conditions in these communities almost immediately improve. In those regions where cholera is endemic, wells are especially urged. In some of these remote

districts it almost seems like a liberal education when the native has learned to use and appreciate pure drinking water. To these cholera endemic regions the attention of the Bureau of Public Works has recently been directed. It is proposed to establish a system of irrigation to supplant the present system of stagnant irrigation, and to have it so arranged that the rice fields may be flooded and drained at will, either by a high tide in those districts along the coast, or in the hills from a river or reservoir.

Such is another phase of the American campaign of sanitation and irrigation in the Philippine Islands.—Manila Correspondence Journal of the American Medical Association.

PERSONALS.

Dr. N. H. Wireback, of Lonoke, spent a couple of days in the city recently.

Dr. A. E. Sweatland and wife have returned from a two weeks' trip to Chicago.

Dr. W. C. Dunaway and wife spent the first two weeks of September in Des Moines, Iowa.

Dr. S. A. Southall, councilor of the Third district, reports the arrival of S. A., Jr., on August 6.

Dr. and Mrs. H. H. Rightor, of Helena, report the arrival of H. H., Jr., on September 1, 1910.

Dr. J. P. Runyan and wife have returned from a month's outing spent in Colorado and Yellowstone Park.

PUBLISHER'S NOTICE.

Again we are nearing the season when the problem of diphtheria and its treatment must be met and solved. The writer of this paragraph is forcibly reminded of the fact by the receipt of a modest but important brochure of sixteen pages, bearing the title, "Antidiphtheric Serum and Antidiphtheric Globulins." A second thought is that here is a little work that every general practitioner ought to send for and read. Not that

the booklet is in any sense an argument for serum therapy. It is nothing of the kind. Indeed, the efficacy of the antitoxin treatment of diphtheria is no longer a debatable question, that method of procedure having long since attained the position of an established therapeutic measure. The pamphlet is noteworthy because of the timeliness of its appearance, the mass of useful information which it presents in comparatively limited compass, and the interest and freshness with which its author has been able to invest a subject that has been much written about in the past dozen or fifteen years. Its tendency, one may as well admit, is to foster a preference for a particular brand of serum, but that fact lessens not one whit its value and authoritativeness.

Here is a specimen paragraph, reprinted in this space not so much to show the scope and character of the offering as to emphasize its helpful tone and to point out the fact that its author was not actuated wholly by motives of commercialism:

"Medical practitioners have learned that, inasmuch as the main problem presented in the treatment of a case of diphtheria is the neutralization of a specific toxin, the true antitoxin cannot too soon be administered; moreover, that, antitoxin being a product of definite strength, a little too little of it may fail when a little more would have succeeded; hence, larger or more frequently repeated doses are becoming more and more the rule. One more point: If a medical attendant is prompt, as he must be, and fearless, as he has a right to be, the full justification of his course will hinge upon the choice of the best and most reliable antidiphtheric serum to be had; for while there is little or no danger of harm ensuing from the use of any brand issued by a reputable house, the best results—which may mean recovery as the alternative of death—can only be hoped for from the use of the best serum."

The brochure is from the press of Parke, Davis & Co., who will doubtless be pleased to send a copy to any physician upon receipt of a request addressed to them at their main offices, Detroit, Mich.

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 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

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Original Articles.

HOOKWORM DISEASE.*

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In order to help us to understand certain public health conditions in our country, it is well to consider certain characteristics of our population. First of all, we are not an honest people, for we are not honest with ourselves. We are a conceited and self-satisfied people; we are of an excitable and hysterical nature; we are bullheaded, and, as a people, we are dirty in our habits of life. Further, we are an extravagant people—extravagant in many ways, as, for instance, in respect to human life. Human life does not, in fact, count for very much with us unless there is something connected with its loss which appeals to our excitable and hysterical nature. In case of something unusual and spectacular, as a great accident, we become excited and mourn the loss of human life, and we even demand that precautions be taken to prevent a recurrence of the accident, although perhaps not over 100 to 1,000 lives were lost. But we are so extravagant that we do not awaken to the fact that we bury about 35,000 Americans per year as a result of that filth disease, typhoid fever; there is nothing spectacular connected with 35,000 deaths scattered over the entire year and the entire country. We are so self-satisfied that we do not become properly aroused over the death of more than 150,000 Americans from tuberculosis, but we go merrily on, continue our filthy American

habits of promiscuous spitting, and continue to die of tuberculosis. Just reflect a moment upon the fact that we lose more human lives in this country in one year from tuberculosis than we have lost in 114 years from yellow fever, and compare the interest which a single case of yellow fever excites with our apathy over 1,000 cases of tuberculosis.

Again, we Americans are grateful to the person who helps us out of trouble, but indignant at the man who prevents us from getting into trouble. We are thankful to the physician who gives us a drug which relieves us from pain, and we are angry at the health officer who, in order to prevent the spread of disease, tells us to clean up our back yard. An order to clean up implies a criticism, and we resent the idea that anything concerning us justifies criticism.

I propose to show you some of our filthy American sanitary conditions. This implies a criticism, and criticism jars our self-satisfaction. Please feel at liberty to be as indignant at me as you may wish, for I recognize the chain of circumstances, and also the fact that it is part of the duty of every person who wishes to prevent the spread of disease among Americans to accept philosophically and with good humor any indignation which his exposition of American filth may call forth.

Passing for a moment to the subject of typhoid fever, let us recall that our average negro population in the United States is 11.6 per cent, and our average typhoid fever death rate, according to the twelfth census, is 46.5 deaths per 100,000 inhabitants. In fifteen states, however, the average negro population is 34.34 per cent, and the average typhoid fever death rate is 72.7 per 100,000 inhabitants. In seventeen states the negro population averages 2.48 per cent, and the typhoid fever death rate is 39.25 per 100,000. In eighteen states the negroes are 0.42 per cent,

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and the typhoid fever death rate 25.51 per 100,000. Thus it appears that in general the greater the negro population, the higher is our typhoid fever death rate, and this fact does not seem strange when we recall that typhoid is a filth disease, and that the negroes are, as a rule, filthier than the whites.

These very suggestive statistics naturally lead to a consideration of health conditions in the South, and to me the conclusion is inevitable that, given in that part of the country a much higher percentage (34.34 per cent) of the negro race than we find in any other part of the United States, given further the well known fact that in general the negro is much dirtier than the white, the white race in the South is of necessity living under a sanitary handicap which does not find a parallel in any other part of our land. The practical lesson to be drawn is that in the South it is even more necessary to have and enforce rigid sanitary laws than it is in the other sections.

Considering the subject further, we see that the whites have brought from Europe and the negroes have brought from Africa certain diseases. The South, therefore, has to contend with two sets of maladies. Tuberculosis and venereal diseases appear to have spread from the whites to the blacks and are working havoc. Hookworm disease and other tropical infections have spread from the blacks to the whites and are costing human life. Considering Southern conditions from the viewpoint of biology, it may be concluded that in attempting to have two closely allied competing races of animals (the whites and the blacks) live side by side in the same area, we are violating a law of nature, and one of the penalties both races are paying is an increased death rate.

Fortunately biological science has reached a point which enables us to overcome at least part of the handicap under which we are living, if we will only make a practical application of well established principles.

HOOKWORM DISEASE, OR UNCLINARIASIS.

One of the maladies which the negro is spreading to the whites is hookworm disease, a filth disease due to soil pollution, and one to the effects of which the negro presents a relative racial immunity when compared to the white.

This disease is caused by small round worms (nematodes), which live in the small intestine. They do not multiply here, but they lay numerous eggs, which pass out with the patient's excreta and develop into minute em-

bryos. The latter grow, undergo certain changes, and then enter the human body in either of two ways, namely, by the mouth or through the skin. The latter method of infection appears to be the more common; in fact, the usual method. As a result of the skin invasion, a condition develops which is known as "ground-itch," "foot-itch," "toe-itch," etc. From the skin the young worms gradually reach the blood and pass through the heart to the lungs, where they filter out from the blood and enter the air passages; they pass up the trachea, down the esophagus, through the stomach to the small intestine, where they become mature and lay eggs.

From this life cycle it is clear that soil pollution is the basis of the spread of hookworm disease, and if soil pollution is prevented, hookworm disease will disappear.

If we examine our Southern farms we find that over 50 per cent of the farmhouses have no privy of any sort; of the negro farmhouses, about 80 per cent have none. The conclusion must therefore be drawn that our filthy habits of promiscuous defecation is at the basis of the spread of this malady, and that in this respect a considerable proportion of the rural inhabitants is living under sanitary conditions that are no better than those described for the savage tribes of Africa. We are not even living up to the sanitary advice which Moses gave in Deuteronomy 23:12, 13. But we are such a self-satisfied and dirty people, and so extravagant in respect to human life, that we permit this condition to continue, and we pay the penalty in an unnecessarily high death rate, especially among our children.

My friends, have we Americans enough interest in the health and life of our children to induce us to develop sufficient courage to clean up? That may seem like a curious question, but think a moment. Have we Americans the moral courage to clean up? Let me give you three instances which recently occurred.

A short time ago I spoke in a certain town. I showed the people something of their sanitary conditions. When I got through, one of the health officers came to me and said:

"Dr. Stiles, I am awfully sorry you said what you did."

"Did I exaggerate?" I asked.

He replied, "No, but your statements will damage us. We are booming this locality at present as a health resort, and your utter-

ances are not in harmony with our business interests.”

A short time ago I spoke in a certain health resort. When I had finished, one of the leading citizens declared in very strong Saxon that the town would be a good deal better off without these lectures if their sanitary conditions were to be exposed in that ruthless, plain, matter-of-fact way.

Not very long ago a certain state medical society held a symposium on “Hookworm Disease,” and two physicians practicing at a health resort in that state tried to inhibit it, on the ground that the popular campaign on hookworm was injuring their practice. That was in the year 1910!

I want to say, in parentheses, however, that these three little incidents do not represent the better element in the South. They are exceptions. There are some people who are against the present health campaign. They say it is injuring business and immigration. Why? Because, I believe, some Americans think more of a prospective advance in real estate values than they do of the lives of their wives and children.

My friends, in the present campaign against filth, American deaths, American ignorance, American disease, we need the aid of every man, woman and child who is sufficiently patriotic to see our own faults and to make our country better. The question before each and every one of us is this: Do we Americans think enough of the lives of our children to induce us to clean up, or would we prefer to continue in our present filthy habits of soil pollution and pay for this in human life?

ETIOLOGY AND PATHOLOGY OF UNCINARIASIS.*

William H. Deaderick, M. D., Helena.

The discovery of a widely prevalent and economically important disease in a country where it was formerly unknown or regarded as a mere curiosity of a foreign land is an epoch in its history. Dr. Stiles has become prominent in Southern history by his demonstration, in 1902, that infection with the “American murderer” prevails extensively in certain of our Southern states, and that it is largely responsible for the anemia, physical

inertia and mental lethargy of a considerable part of the population.

Uncinariasis is chiefly a disease of warm countries. While it occurs in northern Europe, it is contracted in mines and tunnels below the surface, where the temperature is higher. The temperature most suitable for the extra-corporeal cycle of the parasite is 75 to 85 degrees F., and temperatures much below this retard its development.

Infection occurs most often during the warm months, and for this reason the symptoms are severest during this part of the year. Rainfall acts as an etiological factor by furnishing the necessary moisture and by disseminating the larvae.

The character of the soil is an important predisposing element in some localities. Most observers in the United States, following Stiles, find that it is upon sandy soils that the infestation usually occurs. Indeed, the character of the soil is regarded as a diagnostic point of some value. While this was not found by the commission to be the case in Porto Rico, it doubtless is true to a certain extent, for this country.

Negroes, while frequently infested, are relatively immune to the more serious manifestations of the disease. This comparative mildness of symptoms, together with very careless personal habits, makes the members of this race efficient disseminators of the disease. These patients with mild cases are analagous from a prophylactic standpoint to typhoid carriers and to cases with latent malaria.

The sexes are infected in the ratio to opportunity to infection. In Egypt, where it is the custom for females to be immured, Sandwith found only ten cases in females among 1,000 cases. In Porto Rico about 40 per cent were females. In the Southern states Stiles found severe cases more common in women and children than in men over twenty-five years of age. He attributes this to the fact that, the women and children being at home more, are on the more intensely infected area for a greater length of time.

Uncinariasis is a disease of the poor classes. Bare feet and occupations which afford intimate association with the soil, as mining and farming, predispose to infection. In this connection Dr. Manson recites an interesting incident:

“A planter from Trinidad, West Indies told me some time ago that he was at one time seriously inconvenienced by coolie itch among his field hands. He remarked that the

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attack of coolie itch was often followed by profound anemia, and he also remarked that the anemia occurred only, or principally, among the coolies who either passed through or who worked in certain fields. He argued that in these fields there were certain germs that, coming in contact with the legs and feet of the coolies, produced the dermatitis, and, on subsequently entering the body, the specific anemia. He knew nothing about the ankylostome; the observation was made long before Looss' discovery. The planter had some knowledge of bacteriology, and he, like many others, thought that the germ in question was a bacterium, and that by some antiseptic and protective procedure, he could either kill the germ or prevent its access to the skin. In casting about for a means to effect this, he bethought him of a practice he had seen in operation in a certain part of Germany during one of the annual pilgrimages he made to that country in search of health. In that particular part of Germany geese are raised in large numbers. The goose market is a long way from many of the goose farms, so that the birds, when ready for sale, have to be driven for many miles over the hard roads. To enable their feet to stand the journey, the farmer provides each of his birds with a pair of close-fitting antiseptic socks and sandals. These he fits on in this wise: He fills a shallow trough with tar, and through this trough he drives his geese onto a piece of ground covered with fine sand. The tar sticks to their feet and the sand to the tar; the birds are shod for the road. Thus provided, they perform the long journey without injury. Acting on this hint, the planter made his coolies, on their way to their work in the morning, dip their feet and legs in a bucket of Barbadoes tar and then walk across a layer of sawdust or sand. The result was excellent. Coolie itch and coolie anemia almost disappeared from the plantation."

Until twelve years ago it was thought that infection took place only through the mouth. Since the discovery of Looss, in 1898, infection by mouth is not regarded as the usual mode. This investigator discovered that the parasites gain entrance to the body through the skin. The perpetuation of parasitic existence in general is wonderful, but the route traveled by the hookworm larva from the integument to the intestine appears most miraculous. The larvae pierce the skin through the hair follicles, gain entrance to the circulation, and are carried through the heart

to the lungs. Here they leave the blood vessels, entering the air cells, traverse the bronchi to the larynx, and down the esophagus, through the stomach to the intestine. From the entrance into the skin until ova appear in the feces occupies about ten weeks. This remarkable discovery of Looss was made accidentally. While working in his laboratory a drop of water containing about 1,000 larvae dropped upon his hand. To his surprise, this was followed by burning and itching. He allowed another drop to fall upon his skin. In a few minutes an examination showed that the drop of water contained very few larvae, but a great number of empty sheaths. In due time eggs were found in the feces, and anemia and other symptoms of uncinariasis appeared, requiring prolonged treatment with thymol.

Looss' observations have been repeatedly confirmed, notably by Claude Smith, of Atlanta.

The entrance of the larva into the skin causes a dermatitis known as "ground-itch," going through the stages of erythema, vesicle, postule and ulcer or gangrene. It is usually confined to the feet and ankles, oftenest between the toes.

The parasite will be chiefly described without entering minutely into zoological details. The length of the male is from 7 to 9 mm.; its breadth, .3 to .35 mm. The length of the female is 9 to 11 mm.; its breadth, .4 to .45 mm. The body is cylindrical and the color is usually white or grayish, but may be yellow or red, according to the contents of the alimentary and genital organs. The body tapers anteriorly. The head possesses dorsal and ventral pairs of lips, a prominent dorsal tooth and four buccal lancets deeply situated. The tail of the male flares into an umbrella-like caudal bursa, composed of dorsal and ventral lobes, and prominent lateral lobes supported by rays like the ribs of an umbrella. Two barbed spicules proceed from the bottom of the caudal bursa, and the genital organ lies at the bottom. The tail of the female is conical. The vulva is situated slightly anterior to the middle of the body.

The eggs are symmetrically oval, and vary from 64 to 76 microns in length by 36 to 40 microns in breadth. They are usually clear and contain one or more segmented masses of granular matter.

The ova do not hatch in the body, but, passing out with the feces, develop, if conditions of warmth and moisture be favorable, in a few hours to a few days, into minute embryos.

Mature larvae may persist in a suitable medium for months before infesting man.

The pathogenesis of uncinariasis is not definitely settled. For a time it was thought that the anemia and other symptoms of the disease were directly due to the leech-like habits of the parasites. This, however, does not satisfy all the conditions, as an explanation and in the light of our present knowledge it is at least probable that a toxin plays the principal role. The reasons for this theory are:

1. The blood changes; eosinophilia; almost or quite normal red cell count with low hemoglobin percentage.

2. Nervous symptoms out of proportion to the anemia, and which may improve before the anemia has been compensated.

3. The relative immunity evinced by certain individuals and races.

4. Analogy to other helminth infestations.

5. The appearance of symptoms before parasites have reached the suctorial phase.

6. The experiments of Lussana, Daniels, and others.

The morbid anatomy will be reviewed very briefly. The chief pathologic features are anemia, fatty degeneration and serous effusions. The skin is lemon colored. Emaciation is ordinarily inconspicuous or absent. The muscles are flabby, and, together with the other organs, very pale. An excess of serum is commonly found in the peritoneal, pleural and pericardial sacs, and in the ventricles of the brain. The heart is generally enlarged, mottled, and shows fatty changes. The liver is pale, friable, and is not enlarged. The spleen is enlarged in about one-third of the cases. The kidneys are very pale and show marked fatty changes throughout the parenchyma. The brain is anemic, with an excess of serum in the ventricles. The stomach is often dilated and catarrhal. In the small intestine the parasites are usually confined to the jejunum, but may be present in the duodenum and ileum. They number from ten to several hundreds; in one of Sandwith's cases, 1,524. They are sometimes found at autopsy attached to the mucous membrane. The intestine shows numerous bites and hemorrhages. These are, as a rule, more numerous than the parasites. Interstitial inflammation of the intestine is not uncommon. Ulceration, even perforation, have been noted. The mesenteric glands are often hyperplastic.

The blood is pale and watery. The hemoglobin averages about 50 per cent; the red cells about 2,500,000 per cu. mm. Polychro-

matophiles, poikilocytes, macrocytes, microcytes and nucleated reds are frequently observed. The absolute leucocyte count is commonly normal, but the differential count affords interesting data, especially in the increase of eosinophiles. In one of my cases, a mild infection, these cells were 28 per cent of the leucocytes. Eosinophilia is regarded as a favorable prognostic sign. In some cases there is an increase of the large mononuclears.

DIAGNOSIS AND SYMPTOMATOLOGY OF UNCINARIASIS.*

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The first symptom in 90 per cent of cases is ground-itch. The term "ground-itch" was coined by the laity; just when, we have been unable to determine, as our oldest citizens tell us they saw it when they were children. The laity gave it other names, as "toe-itch," "water-sores," "dew poison," "water-pox." All these names were coined because the condition was observed to make its beginning in wet weather. Ground-itch is an inflammation of the skin characterized by erythema, papules, vesicles, and sometimes pustules with excoriations and crusts which scale off in the terminal stage. The subjective symptoms are intense itching and burning. It is chiefly confined to the lower extremities, but may occur on any other area of skin which happens to come in contact with infected (polluted) dirt, feces or other material. Ground-itch was passed unnoticed by the medical profession until 1904. Then it was observed that most cases of uncinariasis gave a history of having had the complaint. Looss first proved the real relationship between ground-itch and uncinariasis. The technically correct designation for ground-itch is uncinarial dermatitis. Now we know it to be the very beginning of that formidable disease, uncinariasis, which has caused many deaths, contributed to so many more, and which has cost our state so much by dwarfing the body and mind of so many of her youth. We are all familiar with ground-itch, for the majority of us have seen it. The essayist has seen cases so severe that the patients could barely walk. In 1908 we observed a case which started in May and persisted until October, resisting all treatment. We have seen it on the hands in several cases. In 1907

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we saw a young man who had a patch of dermatitis on his face. The diagnosis was ring-worm, but in ten weeks ova uncinariæ were found in his feces. This was unquestionably ground-itch.

The second symptom of importance is secondary anemia. The degree of the anemia varies greatly, and occurs in perhaps 75 per cent of cases. Uncinariasis cannot be diagnosed from secondary anemia, as so many other diseases give rise to this condition, such as malaria and many other frequent diseases. Besides, probably 25 per cent of cases of uncinariasis enjoy the best of health and have no anemia. Here is this remarkable fact, too: The degree of anemia is not proportional to the number of worms in the intestinal canal in all cases. We see patients enjoying the best of health who have quite large numbers of worms, and then we see them with extreme anemia who have only a few of the little worms—perhaps less than a dozen. Why this wide variation? It is probably due in part to the fact that the person who breeds uncinariæ with impunity has a powerful digestive tract, eats abundance of good food, and is able to make plenty of good, rich blood for his own cells and have enough left for the hookworms. Let this person have typhoid fever, pneumonia, malaria, or any other disease, and his worms will do him great harm. The person with few worms and extreme anemia presents the opposite picture. Weak digestive organs, overwork and worry, and he is unable to make sufficient blood for himself, and has none to spare. His resistance to all diseases is low, and he is good pabulum for all infectious diseases. There is another explanation for the disproportion between the number of worms and the degree of anemia. In the patient with few worms and severe symptoms the worms may have been abundant just before the examination. They may have either died out or migrated voluntarily because the blood, being so reduced in quality and poisoned by toxic substances from the worms, was unfit for their nutrition.

How do hookworms cause anemia? They have sharp and heavy teeth with which they pierce the mucous membrane of the small intestine of their host. They hold on at the puncture and suck blood. The worms are said to waste much blood, as they can digest only the plasma, or liquid part of the blood. The corpuscles they cannot digest. It is reasonable to suppose that they change feeding ground often and leave behind bleeding points

in the inflamed bowel. They probably put into the blood some toxin which is supposed to come from their salivary glands. This substance reduces the coagulability of the blood. Hence patients with uncinariasis sometimes have troublesome hemorrhages from other parts of the body. Suppose that a patient had 1,000 hookworms and that each one of these worms ate two drops of blood per day. That would be four ounces of blood to feed the worms one day. There are few people who could feed that many hookworms and carry on their own nutrition and not develop an extreme anemia in a short time.

The appearance of extreme cases of uncinariasis is almost diagnostic. They are of pale, sallow complexion, dirty-white skin, thin and weak. There is dyspnea on slight exertion. The abdomen is prominent in many cases. These patients are listless, careless, frequently dirty, and many of them live in more or less filthy homes. They are often lazy. Unfortunately, there are many such pictures in Arkansas, but fortunately most cases of uncinariasis have fair health; many of them perfect health. To these, however, the worms are a constant menace, for, with their resistance reduced, they may be the only people in the community to take any disease that happens to come along, and they bear any and all diseases poorly. Then, too, they are carriers of the infection, and endanger other people.

Children who have uncinariasis for a number of years are always more or less dwarfed in both mental and physical development. They have round shoulders, bat-wing scapulae, prominent abdomens and sallow faces. The writer has observed several cases of physical dwarfs, doubtless due to hookworm disease. Each one of them gained in weight after treatment with thymol. The mental dwarfs present the other side of the bad picture. We have all observed children who could make but little progress in school. They would not play at play time nor work in school; they would simply sit and look about. No energy, no ambition; absolutely inert. They could not be forced to study. They could not study if they tried ever so hard. They are the harmless kind. We have examined a number of such school children and found them to have hookworms.

Perversion of appetite is another symptom of uncinariasis. All cases of sufficient severity to cause anemia have variable appetites. Sometimes they can eat but a small quantity of food, while at other times they bolt down

large quantities. Dirt-eating has long been observed in the South. When uncinariasis was first found to exist here, the dirt eaters were supposed to get uncinariasis by eating dirt. Of course, this would be a capital way of getting uncinariasis if the patient ate infected dirt; but clay is most often eaten, and it is baked in the fire before being eaten. Chalk is also at times eaten. Why should hookworm sufferers have such appetites? It is the demand of the blood for iron with which to make hemoglobin to supply the tissues of the body, which demand is expressed by the appetite for almost anything. When a patient once eats dirt, the iron he gets helps relieve his appetite, so he likes it.

Pains in the abdomen are complained of by almost all cases of marked anemia due to hookworm disease. The pain is due to the worms piercing the mucous membrane of the intestine with their teeth. The pain may also be due in part to a toxic substance which they put into the tissues in the same way that a mosquito bite is painful. The pain is contributed to, in part, by disturbance of digestion due to the inflamed condition of the bowel.

This is also one of the causes of intestinal derangement. Constipation and diarrhea alternate. The stools are always dark in color and offensive if there are many worms. This comes from the hemorrhage into the bowel from the punctures made by the worms. The blood decomposes and renders the stools dark and offensive.

The writer has reported a number of cases of malaria which resisted all antimalarial remedies. Most of these cases were easily and permanently cured of the malaria after they had received treatment for the hookworms. There must be hundreds of such cases in Arkansas. The uncinariasis has simply reduced the patient's resistance to such an extent that it is almost impossible to rid him of malaria until the hookworms have been removed.

The physical examination of the heart in bad cases shows what we usually find in extreme anemias; that is, hemic murmurs over the base of the heart. We have found the hemoglobin percentage to range from normal to 35 per cent. Ashford and King report hemoglobin percentage as low as 15 per cent in Porto Rico. In most cases of mild type it ranges from 60 to 75 per cent. Perhaps 25 per cent of cases in Arkansas have normal hemoglobin. They are of interest because they

act as carriers of the infection and are just as dangerous to the public as the case that is in the last extremes from the disease.

In severe cases the white blood cells are normal in number, but show an increase in eosinophiles. Eosinophilia is one of the most constant blood findings in uncinariasis. It is essentially a pathological phenomenon. Unfortunately, it occurs in many other diseases, as lienomyelogenous leukemia, bronchial asthma, scarlatina, measles, certain skin diseases, in all the other intestinal parasitic diseases, filariasis, trichinoasis, and after the administration of certain drugs. While it is an important blood finding, yet it is not diagnostic. The red blood cells are reduced in number in all severe cases, and show most of the other changes seen in severe secondary anemias.

The examination of the feces offers the most conclusive evidence of the existence of hookworm disease. The gross examination of the feces may be used where no microscope can be obtained. Simply give the patient thymol and follow in a few hours with salts, and collect all stools. Search for worms about the thickness of a pin and one-half inch long. The finding of the worms settles the diagnosis. The objections to the gross examination are inconvenience of the patient, uncertainty of results and loss of time to the doctor. Severe anemia is sometimes caused by but few worms, and the patient must be starved and half killed with thymol before a worm can be obtained.

Hence, the only practical way to diagnose uncinariasis is by a microscopic examination of the feces. This can be done easily and quickly in most cases. The one constant sign of uncinariasis is the presence of ova in the patient's feces. Take a piece from the surface of the feces about the size of a pin head, or one drop of liquid feces, and spread on a slide under a cover glass. Examine with a moderately high power, as Bausch & Lomb two-thirds inch, with not too strong light. The eggs are from 36 to 40 microns wide by 64 to 72 microns long. The eggs are oval, elongate, with thin shell and segmented protoplasm. When an egg is located it can be studied more closely with the higher power. By keeping the feces in warm weather or in a warm room for from a few hours to several days, we may watch segmentation until each egg contains a fully developed embryo. In time the embryos rupture their shells and may be found free in the fecal matter.

Other ova may be found in the feces, but differ from ova uncinariæ in many ways. The ova of *ascaris lumbricoides*, the ordinary round worms, have a very thick mammillated covering and an unsegmented protoplasm. The eggs of *trichocephalus dispar*, or ordinary whipworms, have a smooth, thick shell, apparently perforated at each pole, and an unsegmented protoplasm. The ova of *oxyuris vermicularis* resemble most the ova of uncinaria. Their shells are slightly symmetrical, one side being somewhat flattened. They are slightly smaller, more time is required for segmentation, and the segments are much smaller. The ova of *strongyloides intestinalis* are rarely found in the feces. The rhabdiform embryos are most often found, and can readily be distinguished from the embryos of uncinaria.

The appearance of Charcot-Leyden crystals in the feces of severe cases of uncinariasis has been observed. They are found in the feces of cases of *strongyloides intestinalis* also. Just what is their significance is not known. They seem to be found in conditions where there is eosinophilia, as seen in cases of bronchial asthma.

CONCLUSIONS.

1. Uncinariasis is a widely prevalent disease in many sections of Arkansas.
2. It is no more disgrace or dishonor to have uncinariasis than it is to have pneumonia, appendicitis or measles.
3. Patients having uncinariasis should be regarded as dangerous to the public health, and should be treated, whether or not they have anemia or other distressing symptoms.
4. Every person who has anemia and every dull school child in Arkansas should have his feces examined by a competent microscopist to determine whether uncinariasis is the cause. Such examinations will help the doctors diagnose many cases presenting vague and indefinite symptoms, and which are designated as neurasthenic.

TREATMENT OF HOOKWORM DISEASE.*

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The treatment of uncinariasis may appropriately be considered under three headings, namely: Prophylactic, expulsion of the hookworm, and restorative.

Prophylaxis is a subject of vital importance, and one that should receive our most careful consideration. There is no disease of such gravity that admits of such an easy prevention and eradication, provided the laity can be interested to the point where they will give their hearty coöperation.

The two avenues through which infection takes place are through the mouth, by means of dirt swallowed accidentally or otherwise, raw vegetables, and drinking water; and through the skin from soil infection. The latter, I am convinced, is the route through which infection takes place in 99 per cent of the cases. Bearing these facts in mind, it is only necessary to prevent soil and water infection to prevent the disease. This may be accomplished by proper disposition of the feces and the effectual treatment of all cases of the disease.

The laity should be taught the dangers of depositing the feces promiscuously about the premises, and suitable privy accommodations provided; or, when this is impracticable, pits should be used, which should be filled up from time to time and fresh ones dug. In either case, unslaked lime should be kept on hand, and a liberal quantity placed over the feces each day. In all cases of the disease, whether presenting symptoms of sufficient severity to cause them to seek the advice of their physician or not, the laity should be told that they are a source of danger to themselves and others, and given effective treatment. Whenever one case is found in a family, the chances are that other mild cases will be found in the same family, and an examination of all suspects should be made with a view of giving treatment if the disease is found to exist. A microscopic examination should be made of the feces of everyone who gives a history of having ground-itch in recent years, and if the disease exists, treatment should be instituted at once.

If these measures could be carried out effectually, the disease could be stamped out in our climate in one year, but, unfortunately, in many instances this cannot be done. Every one who has had experience along this line knows how difficult it is to secure the hearty coöperation of many of the laity. Many regard the promiscuous disposition of the feces as of no importance, so long as they are out of smelling distance of the residence and away from the water supply, while some of the very mild cases will absolutely refuse examination and treatment so long as they feel fairly well.

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However, we have a more feasible means of preventing the spread of the disease that is fairly effective. The laity will, as a rule, act on instructions regarding the prevention of the contamination of the water supply with surface water and the excreta. Ground-itch is anything but a pleasant ailment to have in the family, and if the people are taught and made to believe that it is only the commencement of a far more serious disease, they will be more careful about protecting their feet from mud and water.

The expulsion of the parasite is comparatively simple, though there are certain details that should be borne in mind, whatever anthelmintic is used, if the treatment is effectual with a minimum number of administrations. The parasites are very tenacious of life, frequently lying concealed in mucus in the folds of the intestines, and if the treatment meets with the success so ardently desired, the conditions must be such that the anthelmintic in concentrated form will come in direct contact with the worms. To accomplish this, that portion of the intestinal tract inhabited by the hookworm should be as nearly emptied and cleared of mucus as can be consistently done.

It is my custom to give a saline before breakfast for two or three mornings previous to administering the anthelmintic. The day previous a nourishing diet is allowed, but of such a nature as to be easily digested, leaving a minimum amount of residue, and at bedtime a dose of salts is given. The following morning the patient is not allowed anything for breakfast except a cup of strong coffee, or, in case this is not used, a cup of hot broth. One hour later a dose of the anthelmintic is given, to be repeated at two-hour intervals until two or three doses are given, dependent on the condition of the patient and the constitutional effects produced. This is followed two hours later with salts, an hour after which the patient is allowed the usual diet. If the bowels do not move freely in a few hours, the dose of salts is repeated or a high enema is given. The stools for the following twenty-four hours are passed in a single vessel, after which they are washed and examined for hookworms. An examination of the feces is made a few days after treatment, and if ova are still found, the treatment is repeated once a week until a careful search shows no ova present.

It is a very great mistake to dismiss a patient as cured simply because the last treat-

ment failed to expel any worms, as I have found ova present where the treatment failed to expel a single worm because of a disregard of instructions relative to the preparatory or active treatment by the patient. The number of treatments necessary to effect a cure depends on the preparatory treatment given, and the age of the parasite; the more thorough the preparation the less the number of treatments, while the mature parasite is more easily removed than the young, as the young are more easily concealed in the mucus and folds of the intestine. From my own observation and a study of others I would place the average at about three.

The anthelmintics most commonly used are thymol, betanaphthol, and male fern. Thymol is the one more used than any other. Betanaphthol is justly growing in favor, while male fern is very seldom used for this purpose. The latter is not as efficient as the two just named, and to be effective must be given in large doses, which in some cases produce unpleasant constitutional effects.

The dose of thymol is thirty grains, repeated every two hours until sixty to ninety grains are given. Betanaphthol may be given in ten-grain doses every two hours until thirty grains are administered. Whichever anthelmintic is chosen, the dose should be regulated to suit the age and condition of the patient, children being given one-fourth to one-half the adult dose. In very weak, anemic cases, it is sometimes advisable to give preliminary tonic treatment, with a nutritious diet, and a smaller dose to commence with. Much larger doses than those recommended above have been given, but a careful study of reported cases has failed to show any better results than are obtained from the usual dose, and, remembering that even this dosage may produce some toxic symptoms in some individuals, it seems unjustifiable to administer larger doses.

Neither thymol or betanaphthol should ever be given dry on the tongue, as the inhalation of either might produce serious results. The most convenient mode of administration is in capsules, and where these cannot be taken, an emulsion may be used. While either of the above are in the intestinal tract, no solvent, such as alcoholic beverages, ether, glycerin, turpentine or oils should be allowed. Almost all the fatalities (and they are very rare) can be attributed to a neglect of this precaution. Personally, in quite an extensive experience, I have never seen any toxic symptoms

of consequence appear after the administration of either thymol or betanaphthol. Following the latter, there is sometimes a little dizziness, and with the former there may be slight constriction of the forehead, dizziness, and ringing in the ears. In cases where weakness is at all pronounced, strychnin should be administered with the anthelmintic.

The restorative treatment of uncinariasis does not differ materially from that of other secondary anemias, and to go into details would be superfluous. Due attention should be paid to any complications and sequelæ which may exist, and the patient be given the best dietetic, hygienic and therapeutic treatment possible. Under these conditions recovery is usually rapid and complete, except in the very advanced cases, when it sometimes occurs that nature, with all the assistance possible, is unable to cope with the destruction already accomplished by the parasite.

COMPLICATIONS IN ABDOMINAL SURGERY*.

Charles S. Holt, M. D., Fort Smith.

It is the purpose of this paper to consider the untoward conditions which more or less frequently intervene after abdominal operations. We will include those incidents, accidents and errors which, if they occur beforehand, render possible postoperative complications probable. As surgery progresses in precision and proficiency, surgeons are less apt to exclude from their statistical records other facts than the mortality rate, for it is evident that, excepting emergency cases, or when a desperate pathologic condition requires an immediate operation, without further preparation, that clear judgment, improved facilities and a faultless technic should insure against all but accidental death. When we determine the merits of any particular operation, or the technic of individual operators, we must take into consideration:

1. The length of confinement.
2. The relief obtained from symptoms for which the operation was performed.
3. Whether the relief is permanent or not.
4. Whether postoperative sequels have developed or not. Prolonged confinement to

bed and avoidable detention in hospital are of other besides pecuniary consequence.

Interesting data has been tabulated, showing the enormous loss of time and money expended for hospital fees, which might have been saved under better and more careful management. Instead of citing them in detail we need only call attention to the many thousands of surgical cases cared for each day in order to be impressed with the importance of time-saving. Although less apparent, the scientific aspect is of still greater concern. With the lowering of the general average of time from home, hospital treatment will gain in favor. Such a change in sentiment will result in a larger number of patients submitting to operations in hospitals. Mental contentment cannot be ignored as a factor in the final results. So the better satisfied the patient is with the hospital treatment, the better will be the results.

Failure to relieve the pain and distressing symptoms from which the patient suffered is not alone disappointing to all concerned, but it brings surgical science into disrepute, and this is the more so when as the result of the operation or other treatment the original trouble has been aggravated, or when a disturbance that could be borne has become transformed into one more intolerable and prostrating. We will now consider some of the conditions which retard recovery or render the final results unsatisfactory.

Nausea and Vomiting. — A certain amount of nausea, usually accompanied by vomiting, cannot always be avoided. Proper preparation of the alimentary tract by diet, rest and cleansing, and as little disturbance of the patient as possible after beginning the administration of the anesthetic, will mitigate to some extent the severity of these symptoms.

The amount of anesthetic should be minimized. Nausea is not always dependent upon the amount of anesthetic consumed by the patient, but depends to some extent upon the physiologic depression of the nervous system produced by chloroform, and to a lesser extent by ether, and also it depends upon individual susceptibility, just as individual susceptibility to alcohol differs. Nausea is often almost entirely absent after an unusually long operation, and sometimes excessive after one of moderate duration. It is well to give one ounce of brandy before

*Read before the meeting of the Tenth Councilor District Medical Society, at Fayetteville, September 20, 1910.

the anesthetic is given, because it has a slight anesthetic action, and slightly diminishes the amount necessary to maintain anesthesia as well as making it easier to get the patient under it. Compressed oxygen rapidly displaces the ether inhaled and re-establishes nerve tone. In cases where the nausea is slight, and other conditions will permit it, a semisitting posture and moderate draughts of hot water will facilitate drainage of the stomach through peristalsis, assisted by gravity. The same results may at times be obtained by turning the patient prone anteriorly. If these measures fail and the situation is one that would not be aggravated by emesis, this may be induced by the free administration of warm water. Or, still better, if the condition is recognized early, by the use of the stomach tube and lavage before the patient returns to consciousness.

Hemorrhage, shock and collapse, somewhat similar in their general expression, and bearing a more or less definite relation toward each other, may be classed together. Hemorrhage is a very important factor in the production of shock, and shock is frequently the harbinger of collapse.

Hemophylics and sufferers from the hemorrhagic diathesis will be left out of consideration as unsurgical. Increased surgical skill has minimized the danger from primary hemorrhage, and practical asepsis has rendered secondary hemorrhage infrequent.

Trivial hemorrhages, whether arterial, venous or capillary, can be controlled by pressure and position. If coagula are collecting in the cavities in sufficient amounts to interfere with absorption, or to produce separation of structures that should unite, they should be removed. In cases where the condition is extreme, it becomes imperative to search promptly for and to secure the bleeding points.

Drugs for the control of hemorrhage are valueless and often positively injurious. Among them we must include strychnin, digitalis, ergot, alcohol and adrenalin—all these increase the cardiac forces and thereby raise arterial tension.

The salts of opium, especially morphin, hypodermically, are of benefit. They lower arterial tension and do not depress the vital centers. By relieving pain and preventing reflex disturbances they prevent surgical shock, which, next to complete exsanguination, is to be dreaded most.

Saline solutions as variously employed are also of value to combat shock and collapse after the bleeding points have been secured.

Shock may result from cardiac weakness, or may be independent of cardiac conditions, and result from paralysis of the constrictor center, or may be due to both.

We should ever bear in mind that hemorrhage, prolonged and profound anesthesia, exposure and handling of viscera, pain, particularly when extensive surface has been exposed to trauma, are important factors in the production of surgical shock. Surgical shock is more readily produced in patients in whom there is a reaction from mental excitement. Nothing is more conservative in preventing this condition than a maintenance of confidence or a lack of fear. Crile and other workers in this field have shown by their brilliant experiments that we cannot hope to restore a normal equilibrium by the administration of drugs, formerly so popular. Strychnin, for instance, which will promptly stimulate a normal heart, is powerless to correct the condition of central exhaustion, when due to functional inhibition; it is not able to compensate for a lack of circulating blood. The same remarks apply to alcohol, which, besides being useless, only complicates conditions by its secondary effects. In conditions of profound anemia the head should always be lowered. The lowering of the head is indicated here to secure an increase in cerebral circulation; in other cases the resulting venous stasis will only complicate matters.

Crile pneumatic rubber suit is helpful in relieving circulatory deficiencies, and may be applied either as a preventive or as a treatment. Morphin, by obtunding peripheral and other pain, acts as a stimulant to the flagging forces, and adrenalin is of great aid in improving the blood pressure through the system. Besides these agents, salines by adding volume to the circulation may be administered by the different methods, according to the demands of the individual cases. In emergencies and after severe hemorrhages, intravenous injection or hypodermoclysis is to be preferred. In other conditions Murphy's method of proctoclysis should be given the preference. Postoperative or inhalation pneumonia is, fortunately, of rare occurrence. Careless exposure in cases where the general vitality is lowered accounts in some instances for its occurrence. In other cases it is due to

pneumococci, which are normally present in the upper respiratory passages, overcoming, assisted by the chemical irritation of the anesthetic vapors, the resistance of the lining epithelium. This theory suggests antiseptic care of the mouth and pharynx as a prophylactic measure, and also the use of as little anesthetic as possible. Occasionally bronchitis or pleurisy develop as pulmonary complications.

Hypostatic pneumonias are not as frequent since we learned the value of avoiding prone position and persistent decubitus.

Postoperative peritonitis is one of the most dreaded surgical sequels. It is not our intention to discuss the treatment of acute suppurative peritonitis, but to some of the conditions following abdominal operations and how they may be prevented.

An inherent tendency in peritoneal inflammation and irritation is the production of a plastic exudate, in greater or less quantity upon the surface of the intestines, by means of which they become adherent to one another or to some contiguous structure, causing in not a few instances an angulation of the gut or a narrowing of its lumen to such a degree that intestinal obstruction is set up, with its direct train of symptoms and frequently fatal results. When the abdominal cavity is opened and the viscera are handled, an additional traumatism is inflicted, and when tubes of gauze are placed within the peritoneal sac, adhesions to a certain extent must occur. Fortunately, these adhesions are not generally followed by bad results, but in exceptional cases serious complications result. Intestinal obstruction is then the most frequent complication of peritonitis, whether due to the original infection, to the traumatism of the operation, or to the irritation of foreign bodies introduced for drainage, or to intestinal paresis from sepsis. Intestinal paresis is a potent cause of obstruction, but is one that precedes rather than follows operations for the relief of pathologic conditions of the peritoneum. Postoperative obstruction is generally due to adhesions causing angulations or kinks in the gut, more frequently than actual coarctation of its lumen. The patient who has been doing well is suddenly seized with cutting pains, tympanites, vomiting and with an arrest of the downward passage of feces and flatus. When the abdomen is opened there will usually be found adhesions of the in-

testines at one or more points, sometimes slight in character and easily separated, at other times very extensive and detached with great difficulty, often leaving raw surfaces which it may be impossible to cover with peritoneum. While in some cases there may be an actual constriction by a band, with consequent strangulation, generally the bowel is distended and kinked, and the greater the distention the greater the kink. These adhesions may be the result of the original infection, but are undoubtedly often provoked by the use of gauze and tubes for drainage. Again, it is not probable that the Fowler position favors adhesion and obstruction, by causing too great a descent of the intestines into the pelvic cavity. We often cure our patients of the peritonitis, but have them die of the obstruction, or save them by another operation, so as by fire.

How can we prevent obstruction in abdominal operations? In my opinion by handling the intestines as little as possible, by removing or repairing the original focus of infection—as a ruptured appendix or a perforated viscus—and by avoiding the use of gauze in the peritoneal cavity, unless it is enclosed in tubes or rubber protective, and by removing the drains in a shorter time than is customary. The acutely inclined posture is valuable and cannot be dispensed with, but it is frequently maintained for an unnecessarily long time, and adhesions of the intestines will be lessened if the patient is placed in a horizontal position at an early, rather than at a late, period. Intestinal paresis favors adhesions, hence peristalsis should be encouraged by the use of appropriate measures as soon as the acuteness of the peritoneal inflammation has subsided. Intestinal peristalsis tends to prevent or limit the formation of intestinal adhesions, and to cause their attenuation or disappearance after they have formed. There is some danger in using large glass or rubber tubes within this abdominal cavity.

Two or more moderate-sized drainage tubes split or cut spirally and filled with gauze, and carried to the bottom of the pelvis, are preferable to the rigid glass tubes of large size—wicks of gauze of any desired size covered with rubber protective may be used.

Of course, there are many other postoperative complications of peritonitis, such as vomiting, tympanitis, obstipation and pain,

which are usually due to paresis from sepsis, or to obstruction from adhesions, in the first case requiring gastric lavage and rectal instillation of large quantities of gas solution, and possible enterotomy; in the latter event an early and intelligent interpretation of the symptoms, and the release of the adhesions, or if this is impossible or inadvisable, the performance of the enterostomy or anastomosis to sidetrack the obstructed area.

When the adhesions are extensive it will be better in some cases not to attempt to separate them, as this is often followed by profound shock and frequently by the recurrence of the obstruction, but perform at once an anastomosis with a contiguous portion of the intestinal tract below the obstruction, or make a temporary fistula with drainage externally.

Fecal fistula may also result from pressure of the drainage tube, or from necrosis of the bowel wall from obstruction of the circulation, and it will require appropriate treatment, excision and suture of the opening or resection of a portion of the gut with enterorrhaphy.

Acute Dilation of the Stomach.—Among the unexpected complications that may arise after abdominal operations, no condition has furnished a more distressing chapter than acute dilation of the stomach. Its recognition should not be difficult, for there are three constant and striking symptoms, vomiting, pain and abdominal distension.

Vomiting is the first symptom and occurs throughout the attack, increasing in severity as the case progresses. The most striking feature of the vomiting is the large quantity of material ejected. Several quarts may be vomited in a few hours. It is usually thin, often of a greenish color, but may be brown and may contain blood.

Distension is nearly always present, splashing sounds are quite frequently heard, thirst is intense in most cases, and the urine greatly diminished in amount. Visible peristaltic waves are not often present—obstinate constipation is the rule, and the temperature is almost always normal or abnormal. Rapid collapse is a striking feature, and may account for some of the mistakes in diagnosis.

The treatment should consist of early recognition, prompt emptying of and washing of the stomach, and such posture as may release a mesenteric compression. To these may be added any eliminative measure indicated if the emunctories are inactive. Nourishment and fluids should be supplied by rectal enemata. The large amount of fluid lost through the stomach may be replaced by rectal enemata.

Since the majority of cases result from duodenal obstruction, it is necessary to attempt to release the compressed bowel. Postural treatment seems to be quite satisfactory in many instances. The first cure of obstruction reported was by turning the patient on the abdomen. The knee chest position would be excellent if the patient can be so placed. Several instances were reported in which the position was assumed for fifteen minutes every two or three hours with satisfactory results. Relief of the obstruction by surgery has not been satisfactory. The most important thing is to recognize all postoperative complications promptly. Fatalities occur because postoperative conditions are not recognized early, and therefore not promptly treated. Many serious complications, as we have shown, may be made trivial and easily relieved if quickly diagnosticated and energetically treated.

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ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

The public meeting of the Section on State Medicine and Public Hygiene was held in the auditorium of the Hotel Marion, Wednesday evening, May 4, at 8:00 o'clock. The following resolution was offered at the close of the meeting and unanimously adopted:

"Resolved, That we formally recognize the existence of hookworm disease in our state; that we call upon our population to lay aside all false pride in admitting this diagnosis, and that we invite our people to unite in an effort to improve our sanitary conditions, and thereby reduce not only this, but other soil pollution diseases; and be it further

"Resolved, That we express our appreciation of the generous humanitarian gift of Mr. Rockefeller of one million dollars for the inauguration of a campaign for the eradication of hookworm disease."

In a recent address President Taft said: "We have an Agricultural Department, and we are spending \$14,000,000.00 or \$15,000,000.00 a year to tell the farmers, by the results of our research, how they ought to treat the soil and how they ought to treat the hogs and how they ought to treat the cattle and the horses, with a view to having good hogs and good cattle and good horses. There is nothing in the constitution especially about hogs or cattle or horses. If out of the public treasury at Washington we can establish a department for that purpose, it does not seem to be a long step or a stretch of logic to say that we have the power to spend the money in a bureau of research to tell how we can develop good men and good women. Some of our most enthusiastic conservators of natural resources have calculated how much the life of each man and each woman in the community is worth to that community. I do not think it necessary to resort to that financial calculation in order to justify the saving of human life, such as can be accomplished by the results of research and advice that will proceed from a properly established bureau of health."

ATTEMPTING TO CRIPPLE THE PURE FOOD LAW.

Under the powers given it by the Food and Drugs Act, the federal government has done good work in putting out of business those unconscionable scoundrels who defraud sufferers from cancer by selling alleged cures for this disease. The section of the act under which these people are prosecuted is that which declares a drug misbranded "the package or label of which shall bear any statement * * * regarding such article * * * which shall be false or misleading in any particular." From the simplicity of the wording of the law and from the fact that the intent of its framers was to protect the public, one would imagine that there could be little question as to its interpretation. Such does not seem to be the case, however.

O. A. Johnson, a quack of the "cancer-cure" variety, who plies his trade at Kansas City, Mo., is legally entitled to practice medicine—to the shame of the state be it said. Not long since he was prosecuted under the Food and Drugs Act on the charge of shipping misbranded drugs, the government contending that, since Johnson implied on the

labels of his nostrums that they would "cure cancer," and since such an implication is an unwarranted falsehood, the stuff was misbranded. Such a contention to the man in the street seems conservative enough and plain enough. But Johnson's trade has been a profitable one—to him—and one that was not to be given up without a struggle. When, therefore, the United States grand jury indicted this "cancer-curer," his attorneys filed a motion to quash the indictment on the ground that the Food and Drugs Act applies merely to the composition or ingredients of the medicaments and not to their therapeutic effects. In other words, the defense is that, so long as an exploiter does not falsify on the label regarding the composition of his nostrum, he may lie to his heart's desire concerning its effects. And, strange to say, Johnson's position was sustained by a federal district judge! Fortunately the Supreme Court of the United States will have a chance to reverse this astonishing ruling.

Should it finally be decided that the ruling as it now stands represents the Supreme Court's interpretation of the Food and Drugs Act, the sooner the act is amended, the better. Under the decision of the district judge it would be possible for an enterprising scoundrel, fortified by immunity from prosecution, to sell common salt "Guaranteed under the Food and Drugs Act" as a sure and positive cure for cancer, consumption, Asiatic cholera, or for any other deadly scourge that an imagination untrammelled by conscience might suggest.

To all thinking men, to all men who believe that the Food and Drugs Act was intended to protect the public rather than to afford avenues of escape for conscienceless quacks, to all whose mental horizon is not bounded by hair-splitting legal technicalities—to all, in a word, who feel that it is an outrageous shame that those who are suffering or incurably ill can be defrauded and impoverished under protection of the law—to all such the present ruling on the scope and intent of the Food and Drugs Act must seem deplorable.—Journal of the American Medical Association.

The report of Dr. C. A. L. Reed, upon his return from abroad, that American ideas in reference to sterilizing certain defectives are commanding much attention in Great Britain and on the continent, is interesting in proving that Europeans are watching us more than we suspect. If the sedate mem-

bers of the British Medical Association will applaud a speaker who advocates the methods for the arrest of reproduction among certain criminal and defective classes, as shown in the Indiana State Reformatory at Jeffersonville, then we can rest assured that our attitude toward this great problem is being generally regarded as correct. In this connection, the position taken by the president of the Kentucky State Medical Association at the recent meeting at Lexington is admirable. He recognized the fact that the sex problem is perhaps the most far reaching one of the age, but he says "it lies with the physician to aid in solving it, as it is only to him such matters are confided." Given certain criminal tendencies or mental defects in men, society has the right to practice vasectomy as a means of self-protection. The necessity for this will some day be properly appreciated. Then people will wonder why the means for the prevention of untold misery and suffering was not employed long ago. In the meantime, physicians should continue the agitation.—The Lancet-Clinic.

HEMORRHAGE IN TONSIL OPERATIONS

The general consensus of opinion at the present time is that the tonsils are channels of pathogenic infection, and in view of the facility with which micro-organisms, especially of the pathogenic type, gain entrance into the system through the tonsils, it becomes necessary, under certain conditions, to remove the tonsils in their entirety.

One of the greatest objections to the removal of tonsils is the fear of hemorrhage, and, judging from the repeated reports of serious and occasionally fatal hemorrhage following tonsil operations, it would seem that the fear is not unfounded. It may not be out of place, however, to call attention to the fact that severe hemorrhage is more likely to follow a tonsillotomy than a tonsillectomy, and for that reason it is also for the further reason that the results are far better, complete removal of the tonsils is preferable to partial removal.

A comprehensive knowledge of the anatomy of the tonsillar region and of the possible sources of hemorrhage will enable the operator to exclude largely the occurrence of hemorrhage in tonsil surgery. As stated by Ballenger, the most frequent site of arterial hemorrhage is at about the middle portion of the sinus tonsillaris, where the tonsillar branch of the facial pierces the superior con-

striCTOR muscle of the pharynx. Other points of hemorrhage are usually limited to the inferior portion of the sinus tonsillaris, where the tonsillar venous plexus is located, and to the anterior and posterior pillars, which contain numerous large arterial branches. Therefore the operator should endeavor to keep close to the capsule of the tonsil in order to avoid the larger vessels, as also to avoid injuring the superior constrictor muscle and the pillars which contain arterial branches, which, when severed, may produce annoying hemorrhage.

It is presumed that every operator inquires as to the existence of a hemorrhagic diathesis in a patient upon whom a tonsil operation is to be performed, and that operation upon a "bleeder" is to be avoided; but not infrequently severe hemorrhage occurs either because due care is not observed in the avoidance of the larger vessels in the tonsillar region, or the smaller vessels severed in the classical operation show a tendency to bleed for an unusual length of time. In such cases the question arises as to the best means of controlling the hemorrhage. Styptics, such as iron, alum, tannin and zinc, are absolutely unreliable, and the same may be said of adrenalin. Peroxide of hydrogen or ice water used as a gargle act satisfactorily at times in slight bleeding, but have little or no effect on hemorrhage that is well established. The one method that is certain at all times and under all conditions is direct pressure. If the bleeding is not profuse it is generally easy to control it by pressing a pledget of gauze into the pocket from which the tonsil has been removed and maintaining the pressure for a few minutes. Occasionally the bleeding vessel can be seen and grasped with artery forceps and ligated, but such instances are exceptional, as the flowing blood, clots and gagging of the patient prevent the exact localization of the bleeding point. If the hemorrhage is profuse, the pressure must be maintained from three to twelve hours, and in such instances the tonsil clamp is indispensable, and the earlier it is applied, the better. Hemorrhage which does not cease spontaneously within a few minutes following operation should be considered a surgical emergency and receive prompt attention, and the most effective attention is direct pressure. Failing to control the hemorrhage by pressure necessitates resort to ligation of the external carotid artery.

Finally, owing to the danger of hemorrhage, as well as sepsis, tonsillectomy should be considered a hospital operation, or at least an operation requiring similar attention to that afforded by a hospital. It is the height of folly to permit a patient upon whom a tonsillotomy or tonsillectomy has been performed to go from the operating room to his usual vocation or to engage in any pursuits. The patient should be kept quiet for two or three days, and sitting upright for several hours after the operation as least likely to favor hemorrhage. Long rides in carriage, automobile, steam or electric cars immediately after the operation should not be permitted, not only because the patient is taken beyond the easy reach of the surgeon, but because such practice is apt to induce secondary hemorrhage. There can be no objection to the performance of the operation in the surgeon's office if properly equipped, but the patient should not leave until the hemorrhage is under control, and then should be removed by carriage to home or hospital within easy reach of the surgeon. If removed to his home he should have, for at least twenty-four hours, the services of a trained nurse who has been taught how to apply digital pressure to control tonsillar hemorrhage, should it arise during the interim of the surgeon's arrival. In no other way is it possible to be reasonably safe that hemorrhage will not occur and reach an alarming state before properly recognized and given appropriate attention.

Many tonsil operations are performed and the patient allowed to leave the operating room with utter disregard of the possible danger of continued or secondary hemorrhage, and it is only when a serious hemorrhage occurs that the surgeon and patient are brought to a full realization of the importance of considering the removal of tonsils an operation worthy of as much immediate after care as any major operation. Every man who removes tonsils will sooner or later have cases of severe tonsillar hemorrhage if he adopts no precautions, and he may have such cases even with the utmost care, but he will do the most to prevent such occurrences, and do more justice to himself and his patients if he considers every tonsillectomy or tonsillotomy a major operation, and a possible source of trouble from hemorrhage, and manages it accordingly.—Journal Indiana State Medical Association.

LARGE MERCANTILE ESTABLISHMENT TAKES STEPS TO PREVENT TUBERCULOSIS AMONG EMPLOYEES.

The Simmons Hardware Company, recognizing the spread of tuberculosis and the insistent need that large employers of labor help in the education of their employees, have decided to disseminate information in regard to tuberculosis and the common sense rules for its recognition and elimination; also, they have given to each one of their employees an individual drinking cup and provided sanitary spittoons throughout their stock departments, feeling that in this way their two thousand or more employees will become a means of instruction to the different communities in which they live, and will further the cause of the American Commission on Tuberculosis in an effective manner. They have also issued a short treatise on tuberculosis, and have sent it to each one of their employees. This treatise can also be had on request from their trade. They give the credit for this movement to the suggestion and great interest of our own State Senator Hamp Williams, of Hot Springs.

To the Employees:

Science has demonstrated that tuberculosis is contagious, and that public drinking cups are a nuisance and a medium through which diseases are oftentimes transmitted from one person to another.

In view of that fact, we have decided to adopt the individual drinking cup for the protection of the many employees of the Simmons Hardware Company.

We are furnishing each of you a delftware individual drinking cup, and hereafter there will be no drinking cups at the water barrels. You are hereby instructed to preserve this cup for yourself and use it yourself only, and you are not permitted to take it away from the premises.

TUBERCULOSIS.

Tuberculosis is a communicable disease. The "Great White Plague" is not a mere fatality before which the human race must lie down and die, but is preventable and curable, and resembles in this regard more a physical accident than a fatality. Man himself is to blame if tuberculosis is fatal. Ignorance has been the chief cause of the dissemination of tuberculosis, and that it is prevalent is shown by the fact that in the United States alone there are some 200,000 deaths per year from tuberculosis, 8,000 in Missouri and 1,500 in St. Louis. About one in seven of all deaths, and one in three of all deaths between the ages of eighteen to forty-five, are due to tuberculosis.

Tuberculosis is caused by the growth of a special germ, the tubercle bacillus, which is a minute organism, 10,000 of which placed end to end measure an inch, and a consumptive may disseminate these germs in his sputum to the number of millions a day.

The lungs are the commonest seat of tuberculosis, but it may occur in any part of the system, especially the joints and bones. Without some bodily weakness, tuberculosis is not likely to occur, for a person who is strong and healthy can put up a winning fight against the germ. Tuberculosis cannot be inherited. It sometimes "runs in families" because the members by constant association with each other are exposed to it.

Infection usually takes place by inhaling dried germs from the sputum of consumptives who spit about carelessly, or cough or sneeze in close proximity to others.

Tuberculosis should be suspected from the presence of two or more of the following symptoms: Cough lasting more than a month, losing weight, afternoon feverishness, spitting of blood, tired or run-down feeling, with unusual inability or capriciousness, listlessness, etc., sweating at night, particularly of the head.

Tuberculosis is *absolutely* curable, but early recognition of the fact that one has it is necessary. Light, fresh air, cleanliness, rest of mind and body, with a sufficiency of wholesome food, are the principal methods of cure, and they are extraordinarily simple.

For those who cannot afford medical advice, there have been established tuberculosis dispensaries which give free advice.

One should avoid the abuse of alcoholic beverages, tobacco, insufficient or unwholesome food, sleeping in overcrowded or ill-ventilated rooms. One should eat good, wholesome food, practice personal cleanliness, live just as much as possible out of doors, in the fresh air, and get sufficient sleep. The use of drugs and patent medicines is to be avoided.

The quicker you can follow these ideas and instill them into other people, the quicker will the terrible scourge, tuberculosis, be conquered.

SIMMONS HARDWARE COMPANY,
O. F. Richards, General Manager.

FIFTH ANNUAL MEETING OF THE MEDICAL ASSOCIATION OF THE SOUTHWEST.

The fifth annual meeting of the Medical Association of the Southwest was called to order at 9 a. m. in the Scottish Rites Temple by Dr. Charles E. Bowers, chairman of the Committee on Arrangements. After the invocation, Dr. Bowers introduced Hon. C. L. Davidson, mayor of the city of Wichita, who welcomed those present on behalf of the citizens of Wichita. Dr. O. P. Davis, president of the Kansas State Medical Association, then welcomed those present in behalf of the State Association, and Dr. J. E. Oldham on behalf of the local profession, after which Dr. Bowers introduced Dr. G. H. Moody, who in turn called upon Dr. Joe Beeton, of Texas, to respond to the word of welcome, after which Dr. Bowers, as chairman of the Committee on Arrangements, reported upon the program with especial reference to the social features which were to take place.

The president then appointed as a Committee on Resolutions Drs. Jabez N. Jackson, E. H. Martin and W. L. Allison.

Dr. Jabez N. Jackson then moved, which was duly seconded and carried, that as many of the physicians had not yet arrived, we spend the remainder of the morning session in general scientific session, each chairman presiding in turn.

Dr. H. M. Lyle, chairman of the Section on General Medicine, called upon Dr. E. H. Trailkill, of Kansas City, who read a paper on "Colica Mucosa," with report of cases. This paper was freely discussed by Drs. Hertzner and Robinson, of Kansas City, and the discussion closed by the essayists.

In absence of Dr. William Keiler, chairman of the Section on Surgery, Dr. D. A. Myers, as vice chairman, called upon Dr. D. W. Basham, who read a paper on "The Post Operative Care and Treatment of Supra Pubic Prostatectomy, with Special Reference to the Method of Drainage and the Treatment of Shock and Hemorrhage." This was discussed by Drs. Jackson, Bransford, Lewis, Mark, Griffith, Becton, Hill and Norberry, and closed by the essayists.

Dr. Edward H. Ochsner delivered an address on "The Prevention and Treatment of Septic Infection of the Extremities."

The following resolutions were adopted:

Whereas, The National Pure Food Law is in danger of failing in its purposes by technical interpretations which chemically preserved food products are labeled as pure under the law, be it

Resolved, That the Medical Association of the Southwest condemns the use of anti-septic drugs, such as benzoate of soda and similar chemicals in food products designed for human consumption; and be it further

Resolved, That this association heartily endorses the plan of a National Department of Public Health as a public necessity, and urges its enactment by the coming Congress.

The secretary-treasurer then read his annual report, which was as follows:

As secretary-treasurer for the year just closed, I have only to report that in compliance with the instruction of the Executive Committee, at its last meeting I made due effort to publish the proceedings of the last annual session held at San Antonio, including the papers and discussions in pamphlet form; but I found that impracticable, owing to the fact that I have not as yet received

the stenographic report of the proceedings from the stenographer employed at the meeting, owing, I have been informed, to the fact that he was ill for a long time following the meeting. I found, also, that the funds on hand would not warrant such an expense.

Acting through the Publication Committee, the papers were divided among the various State and private journals, and they have all been published, I think.

I believe that the proceedings and papers and discussions should all be published in pamphlet form, if sufficient funds can be secured for this purpose, and a copy sent to every member whose dues have been paid for the present year.

The Western Surgical and Gynecological Society follows this plan with great satisfaction. Besides this, the papers and discussions should be divided among the various State journals, and in this way the members of each State association will have an opportunity to read them.

Some little criticisms having been made because of the sending out of statements for dues, no statements were sent out this year.

The financial statement shows about enough money on hand to pay all bills up to date.

Following the custom of the past, a circular letter, application for membership and a copy of the preliminary program were mailed to every member of the five State associations, and as there are nearly 9,000 of them it made a considerable amount of work and expense. While this is quite a laborious task, I do not see how the association can be kept before the men whom we hope to reach and their interest increased without this being done, as a personal letter seems to do more good than anything else, and as a result this year quite a number of new members were received.

The question of publishing the proceedings was discussed at length by all present and a proposition for publishing the same was made by Dr. C. W. Fassett, which was fully discussed by Drs. Moody, Riddle, Burnett, Clark, Gazell, Fassett and Hill.

Dr. Gazell moved that the secretary publish the proceedings of this session in pamphlet form, which motion was duly seconded and carried.

The secretary gave the report of the Executive Committee, recommending:

First. The adoption of the resolutions

asking Congress to pass an act to stop the use of antiseptic to preserve food and to create a Department of Public Health.

Second. To publish the proceedings in pamphlet form.

Third. Accepting the report of the secretary-treasurer as read.

On motion, duly seconded and carried, the report was accepted and the recommendations adopted.

Moved by Dr. Jackson and duly seconded and carried, that the chairman of the Committee on Arrangements for Future Meetings be requested to eliminate all addresses of welcome and responses from the program.

Moved by Dr. Jackson and duly seconded and carried, that at the next annual meeting the committee provide one General Scientific Section.

The following resolutions were read:

We, your committee appointed to draft resolutions, beg leave to submit the following:

Resolved, That as an evidence of our appreciation, the thanks of this association be extended to the Kansas State Medical Association, the Eastern Star, the Scottish Rites bodies, Mrs. Jetta Campbell Stanley and the Midian Quartet for the magnificent and generous entertainment extended to us at this, our fifth annual meeting, and particularly do we express our appreciation to Dr. Bowers and his associates on the Committee on Arrangements, through whom these courtesies have been obtained. The city of Wichita has proved itself progressive beyond our most sanguine expectations, and the genial hospitality of its citizens will ever remain as a bright memory in the minds and affections of each of us who has had the good fortune to be here.

JABEZ N. JACKSON,
E. H. MARTIN,
W. L. ALLISON,
Committee.

On motion the report of the Resolutions Committee was unanimously adopted and ordered spread upon the minutes.

The Nomination Committee reported as follows for offices for the coming year:

President—Dr. M. L. Perry, Parsons, Kan.

Vice President—Dr. J. M. Griffin, Sulphur Springs, Ark.

Vice President—Dr. W. H. Stauffer, St. Louis, Mo.

Vice President—Dr. E. S. Lain, Oklahoma City, Okla.

Vice President—Dr. W. L. Allison, Fort Worth, Tex.

Secretary-Treasurer—Dr. F. H. Clark, El Reno, Okla.

The president appointed a Publishing Committee for the coming year: Dr. Claude Thompson, Muskogee, Okla.; Dr. C. P. Meriwether, Little Rock, Ark.; Dr. J. W. May, Kansas City, Kan.; Dr. Holman Taylor, Fort Worth, Tex.; Dr. E. J. Goodwin, St. Louis, Mo.

For members of the Executive Committee to serve three years: Dr. W. A. Wood, Hubbard, Tex.; Dr. S. S. Glasscoch, Kansas City, Kan.; Dr. J. H. Scott, Shawnee, Okla.; Dr. St. Cloud Cooper, Fort Smith, Ark.; Dr. J. D. Griffith, Kansas City, Mo.

For place of meeting 1911, Oklahoma City, Okla.

On motion, duly seconded and carried, the report was adopted and the officers declared duly elected.

The president then appointed Drs. Jackson and Becton a committee to conduct the president-elect to the chair. In a few well-chosen words Dr. Perry thanked the members for the honor they had conferred on him.

Dr. S. S. Burnett then gave notice that at the next annual meeting he would move to amend Act 6 and Act 1.

Dr. Claude Thompson gave notice that at the next annual meeting he would move to amend the by-laws, so that the Publication Committee shall be instructed to divide the papers between the various medical journals of this organization.

On motion the meeting adjourned.

F. H. CLARK,
Secretary.

NOTICE TO MEMBERS OF THIRD DISTRICT MEDICAL SOCIETY.

The third annual meeting of the Third District Medical Society will be held at Stuttgart, November 29 and 30, the first session opening at 1:00 o'clock p. m. on the 29th. It is very earnestly desired that this session of our society be distinguished from all past sessions, both in numbers attending and the excellence of the program. Therefore, you are urged to attend by all means.

You will also confer a lasting favor on the society by contributing a paper for the occasion.

Remember, the success of this meeting rests as heavily on your individual activity in behalf of the meeting as upon any other member, and if you fail the meeting will lack that much of being what it should be.

The social feature will be properly looked after, so that you may rest assured that the meeting will afford pleasant relaxation from duties, both at home and at the meeting, which will, no doubt, prove satisfactory compensation for your sacrifice in attending and in preparing to take a part.

Very cordially,

T. J. STOUT,

Secretary Third District Medical Society.

CORRECTION.

The word microscopic should read macroscopic in the ninth line from bottom, first column, page 104, of the September journal.

General News.

The American Association for the Study and Prevention of Infant Mortality will hold its annual meeting in Baltimore, November 9-11.

A New York court has decided that local boards of health cannot recognize death certificates issued by osteopaths until a coroner has made an investigation.

Dr. Harold B. Wood, assistant demonstrator of normal histology at the University of Pennsylvania, has resigned to become state bacteriologist and chief of the laboratories of the Mississippi State Board of Health. He will be stationed at Jackson.

Dr. T. D. Crothers, of Hartford, Conn., editor of the *Journal of Inebriety*, will deliver a series of lectures on "Alcohol" and on "Drug Addiction" before the students of the American Medical College, of St. Louis. These lectures will be given December 8-10, 1910, and will be open to the public as well as to members of the medical profession.

Dr. Philip K. Gilman, formerly of Oakland, Cal., professor of surgery in the Philippine Medical School, and surgeon-in-chief of the Philippine General Hospital, Manila,

announces his belief that he has discovered a vaccine which will stop the ravages of cancer. He reports apparent cure with the vaccine in twenty cases of cancer in Manila.

The International Medical Association for the Prevention of War will hold its first congress in Paris some time in 1911. Applications for membership should be addressed to Dr. J. A. Rivierie, president, 25 rue des Mathurins, Paris, France; or to Dr. George Brown, secretary of the American Section, 312 Austell Building, Atlanta, Ga. Among the list of vice presidents are found the names of Drs. James Tyson, Philadelphia; C. H. Hughes, St. Louis; Howard A. Kelly, Baltimore, and Franklin H. Martin, Chicago.

The George Crocker Cancer Research Fund of Columbia University, New York City, has undertaken to make examination of suspected tissues, provided that the physician will furnish the information needed for its statistical investigation of the etiology of cancer. It is hoped that the profession will avail itself of this offer, as the early diagnosis of cancer is of inestimable value to the patient and to the profession—and as, at the same time, the statistics thus obtained will be of great value to those engaged in the research work. The Department of Health has agreed to cooperate with the Department of Pathology of Columbia University, and by the middle of October each collection station of the board will be supplied with jars to be used for specimens of tissue suspected to be cancerous.

At the meeting of the American Hospital Association, held in St. Louis September 20, plans for the new Robert A. Barnes Hospital were shown for the first time. The new hospital is to be erected on Kingshighway, near Forest Park, and is to cost about \$1,500,000.00, the funds for which were bequeathed by the late Robert A. Barnes, who died about fifteen years ago. The hospital buildings, consisting of ten in all, will consist of a children's hospital, the Barnes Hospital proper, a service building, pathology building, school building, nurses' training school, superintendent's residence, power house and laundry. The other buildings of the group are those of the Medical Department of Washington University. The hospital will have twenty wards and many private apartments, and will accommodate 360 patients.

County Societies

ARKANSAS COUNTY.—The stated meeting of the Arkansas County Medical Society was held in Stuttgart, October 10 and 11. Election of officers resulted as follows: President, W. H. Boswell, of Almyra; vice president, J. C. Weld, of Stuttgart; secretary-treasurer, E. H. Winkler, DeWitt; board of censors, B. L. Hill, three years; E. H. Winkler, two years; W. W. Lowe, one year. Dr. Winkler reported two cases of placenta prævia with unusual features, and a case of eclampsia. Dr. T. J. Stout, secretary of the Third District Medical Society, of Brinkley, was with the county society, completing arrangements for the meeting of the Third District Medical Society, to be held at Stuttgart, November 29 and 30. The society accepted the invitation of Dr. Winkler, and will hold the next meeting in DeWitt.

E. H. WINKLER, *Secretary.*

WASHINGTON COUNTY.—The Washington County Medical Society met in regular session in room 53, court house, Fayetteville, July 5, 1910. The following were present: Drs. T. W. Blackburn, J. S. Cannon, D. Christian, T. F. Ellis, Nina V. Hardin, C. F. Perkins, D. C. Summers, W. B. Welch, E. E. Wilson, H. D. Wood, W. N. Yates, John Young, F. B. Young, A. J. Harrison, and Mr. Theron Slaughter, of Springdale, a medical student. The program was as follows: "Skin Grafting," Dr. H. D. Wood, discussion opened by Dr. A. S. Gregg; "Infantile Diarrhea," Dr. E. G. McCormick, discussion opened by Dr. D. Christian; "Chronic Urethral Obstruction," Dr. F. B. Young, discussion opened by Dr. T. W. Blackburn. Dr. T. W. Blackburn, delegate to the Arkansas Medical Society, reported a very pleasant session, and the State Society in a flourishing condition. At the April meeting a committee of three was appointed to consider the advisability of having the public invited to a meeting and discussing subjects of public interest. President Perkins appointed Drs. H. D. Wood, E. F. Ellis and A. S. Gregg. At the July meeting the names of Drs. T. W. Blackburn and F. B. Young were added to this committee, and the following resolution was passed:

"*Resolved*, That the Committee on Public Meetings be instructed to take such steps as, in their judgment, are necessary, looking to

the organization, under the auspices of the Washington County Medical Society, of societies in different parts of the county on preventive medicine and public hygiene."

The membership of Dr. R. R. Dinwiddie was transferred from the Washington County to the Sebastian County Medical Society. He is city physician of Fort Smith. The following resolutions were unanimously adopted:

"*Resolved*, That this society regrets exceedingly the removal from our midst of R. R. Dinwiddie, M. D., as he is a great loss to any medical society with which he severs his connection, and a great addition to the membership of any scientific body to which he may attach himself.

"*Resolved*, further, That Dr. Dinwiddie is an able man in his specialty, and we commend him to the confidence of any scientific body with which he may be associated. W. B. Welch, W. N. Yates, H. D. Wood, Committee on Resolutions."

There being no further business, the society adjourned.

The society held its regular quarterly session at Fayetteville, October 4, 1910. The president, Dr. C. F. Perkins, being absent, Dr. J. W. Fergus, vice president, presided. Those present were: Drs. E. F. Ellis, A. J. Harrison, Nina V. Hardin, Otev Miller, E. G. McCormick, J. W. Fergus, James Pittman, H. D. Wood, W. N. Yates and F. B. Young. The program for the afternoon was as follows: "Ophthalmia Neonatorum," Dr. W. N. Yates; "Simple Acute Ophthalmia," Dr. D. C. Summers; "Malaria," Dr. A. J. Harrison; "Infantile Diarrhea," Dr. E. G. McCormick. These subjects were quite thoroughly discussed. Dr. A. J. Harrison, of Springdale, was an applicant for membership. He is a graduate of the University of Arkansas Medical Department. The Committee on Credentials reported favorably on his application, and he was unanimously elected to membership. Dr. Yates read a communication concerning the tuberculosis exhibit now in Fort Smith, with a view to bringing the exhibit here. Dr. Ellis moved, and Dr. Young seconded, that the society pay \$25.00 towards bringing this exhibit to Fayetteville, and it is sincerely hoped that the Washington County Health League, the Merchants' Association and the Commercial League will help to make it possible for the exhibit to be brought here. The program for the January meeting will be as follows: "Poliomyelitis,

Dr. T. F. Ellis; "Bronchial Pneumonia," Dr. James Pittman; "Lobar Pneumonia," Dr. Otey Miller. The crowning feature of the January meeting is election of officers and payment of dues. The society adjourned to meet in quarterly session at Fayetteville, the first Tuesday in January, 1911.

NINA V. HARDIN, *Secretary*.

Personals.

Dr. W. O. Forbes, of Hot Springs, was in the city on professional business October 15.

Drs. F. T. Murphy and J. T. Stout, of Brinkley, were in the city professionally, on the 15th.

Dr. R. L. Russell, of Leslie, former penitentiary physician, spent several days in the city during the middle of the month.

Dr. H. H. Kirby, who has spent the past three months at the Mayo Bros. and the Clinics of Chicago, has returned home.

Dr. J. C. Minor, of Hot Springs, read a paper on "Water the Main Factor in Prevention of Disease" at the Detroit meeting of the Mississippi Valley Medical Association.

Dr. R. L. Saxon, who for the past six months has been doing relief work in Bellevue, Woman's and the New York hospitals, has returned and opened his office in the State Bank Building.

Announcements.

The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a twelfth series of clinical lectures on Diseases of the Skin, in the outpatient hall of the hospital, on Wednesday afternoons, from November 2 to December 21, 1910, at 4:15 o'clock. The course will be free to the medical profession. William C. Witter, Chairman of Executive Committee, New York Skin and Cancer Hospital, Second Avenue, corner Nineteenth Street, New York.

The editors of Surgery, Gynecology and Obstetrics extend to all physicians and surgeons of the United States, Canada and Mexico, who are interested in clinical surgery, an invitation to visit the clinics of the lead-

ing surgeons of Chicago during the two weeks, November 7 to 19, 1910. The various medical societies of Chicago will participate and have arranged for six meetings during the two weeks, at which a number of the leading American and European surgeons will be present. Papers and discussions will deal with the practical, live subjects in surgery. Headquarters for this meeting will be maintained at the Hotel LaSalle, Madison and LaSalle streets, where visiting surgeons will register on their arrival and receive cards of admission to the clinics and society meetings. At these headquarters will be bulletined daily the clinics, demonstrations and other special attractions for the succeeding day.

Book Reviews.

The Diseases of the Skin—A manual for students and practitioners, by Alfred Schalek, M. D., professor of dermatology, University of Nebraska; formerly assistant professor of dermatology, Rush Medical College, Chicago. New (second) edition, thoroughly revised; 12 mo., 255 pages, with 47 engravings. Cloth, \$1.00, net. The Medical Epitome Series. Lea & Febiger, Philadelphia and New York, 1910.

There is a place for this kind of a work, otherwise there would be no occasion for a second edition.

The Diseases of Infancy and Childhood—Designed for the use of students and practitioners of medicine, by Henry Koplik, M. D., attending physician to the Mount Sinai Hospital, New York; ex-president of the American Pediatric Society. New (third) edition, enlarged and thoroughly revised. Octavo, 944 pages, with 204 engravings and 39 plates in colors and monochrome. Cloth, \$5.00, net. Lea & Febiger, publishers, Philadelphia and New York, 1910.

This, the third edition in so short a time, speaks volumes for this work. It is not only a text-book for students, but is a practical work for the busy physician. Owing to the advances in our knowledge of pediatrics during the last few years, you will find much that is new, especially in the technic of treatment and diagnosis of the infectious diseases. Infant feeding, which has advanced so much, has been greatly revised. Diseases of the stomach and nervous system have been rewritten.

A Treatise on Fractures and Dislocations—By Lewis A. Stimson, B. A., M. D., professor of surgery in Cornell University Medical College, New York. New (sixth) edition, thoroughly revised. Octavo, 876 pages, with 361 engravings and 65

plates. Cloth, \$5.00, net. Lea & Febiger, publishers, Philadelphia and New York, 1910.

This new edition of a work that is accepted as the leading authority will be of general interest. For the general practitioner as well as the surgeon is called upon to treat fractures and dislocations, and there is no class of work where the physician and surgeon is called on that requires more skill and tact to maintain his reputation. In the preface of this edition the author claims the principal addition largely represents the results of further study of the injuries of the small bones of the carpus and tarsus, and includes a new subhead, the midcarpal fracture, dislocations, the recognition of which has been brought about mainly through the X-ray. This is a work that should be in the library of every physician.

Publisher's Notice.

In the treatment of diphtheria the physician of today uses antitoxin as a matter of course. It is his first expedient and his last resort. He believes implicitly in its efficacy. But does he understand and appreciate all that is involved in the production of that antitoxin—the scientific knowledge, the skill, the caution, the minutiae of detail? This thought is forced upon the writer through the perusal of a recent publication of Parke, Davis & Co., which deals in part with the subject of antitoxin manufacture. Here is a specimen chapter:

"In the selection of the horses which are to act as the living laboratories for the production of the antitoxin, we apply not commercial or academic knowledge merely, but, what is more to the point, veterinary skill. The animals must be vigorous and healthy. They are carefully examined, their temperature noted for several days, and the presence of glanders excluded by the delicate mallein test. It is the blood-serum of these animals that is to be injected into the patient later on, and no precaution can be regarded as extreme which contributes the slightest positive assurance to its purity.

"Not only must the horses be in good general condition when inoculated; they must be kept so. They are fed, stalled, groomed and exercised for no other purpose than to

maintain to the full their self-protective, antitoxin-producing powers. Thirty miles removed from the noise, smoke and dust of the city is our stock farm, equipped with model stables and supervised by expert veterinarians. Here, at Parkedale, on more than three hundred acres of sunny slopes, at an altitude of six hundred feet above the level of the Great Lakes, live the horses which we employ in serum-production. Amid these favorable surroundings they maintain the physical condition so essential to satisfactory service as serum-producers.

"These are preliminary considerations. Young, healthy, well-kept horses, indispensable as they are, would be of little use in the elaboration of a reliable antitoxin unless the work of injecting them with toxin were conducted accurately, aseptically, systematically, and throughout a period long enough to allow physiological reaction up to the limit of attainable immunization. We have horses enough, so that there is no occasion to be in a hurry with any of them; the exact length of time required for complete reaction is determined in each individual instance by carefully scheduled observations.

"It goes without saying that in the preparation of the toxin and its injection into the horses, as well as in obtaining the blood serum, the most rigid bacteriological technic is maintained. The methods we employ agree substantially with those of Roux, Aronson and Behring, and are from first to last in charge of experts. The varying susceptibility of different animals, whether guinea-pigs or horses, to the diphtheria poison; the more or less rapid physiological reaction; the variation in strength of the antitoxin serum from different horses; the absolute purity of the finished product—these are all important and delicate questions demanding for their determination a high degree of skill and scientific accuracy of observation. These qualifications, in our judgment, outrank all other considerations in the work of producing a reliable antidiphtheric serum."

The foregoing has reference to but a single step in the process of serum production, and affords but a hint of the safeguards with which antidiphtheric serum (P. D. & Co.) is hedged about at every stage of its manufacture—conditions which enable the company to guarantee the purity and potency of its antitoxin.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
 Secretary—George H. Simmons, 535 Dearborn Ave., Chicago.
 Treasurer—Frank Billings, Chicago.
 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
 Judicial Council—William C. Woodward, Washington, D. C., chairman; Lawrence M. Shaw, Osceola, Neb.; Louis A. Hahn, Guthrie, Okla.; Charles S. Huffman, Columbus, Kan.; George K. Angle, Silver City, N. M.
 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912. Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kebler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
 Council on Health and Public Instruction—H. M. Bracken, Minneapolis; W. B. Cannon, Boston; H. B. Favill, Chicago; J. N. McCormack, Bowling Green, Ky.; W. C. Woodward, Washington, D. C.
 Director of the Scientific Exhibit—Frank B. Wynn, 311 Newton-Claypool Bldg., Indianapolis.

OFFICERS OF SECTIONS

Practice of Medicine—Chairman, Allen L. Jones, Buffalo; vice chairman, Charles L. Greene, St. Paul; secretary, Wilder Tileston, 308 Crown St., New Haven.
 Obstetrics and Diseases of Women—Chairman, Horace G. Wetherill, Denver; vice chairman, Fred J. Taussig, St. Louis; secretary, C. Jeff Mille, 404 Medical Bldg., New Orleans.
 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shambaugh, 100 State St., Chicago.
 Nervous and Mental Diseases—Chairman, W. A. Jones, Minneapolis; vice chairman, Herman H. Hoppe, Cincinnati; secretary, E. E. Southard, 37 Trowbridge St., Cambridge, Mass.
 Preventive Medicine and Public Health—Chairman, W. A. Evans, Chicago; vice chairman, Marshall Langtoz Price, Baltimore; secretary, C. Hampson Jones, 2529 St. Paul St., Baltimore.
 Stomatology—Chairman, S. L. McCurdy, Pittsburg, Pa.; vice chairman, Virgil Loeb, St. Louis; secretary, Eugene S. Talbot, 103 State St., Chicago.
 Diseases of Children—Chairman, S. M. Hamill, Philadelphia; vice chairman, Thomas D. Parke, Birmingham, Ala.; secretary, L. T. Royster, Norfolk, Va.
 Dermatology—Chairman, Charles J. White, Boston; vice chairman, Martin F. Engman, St. Louis; secretary, H. R. Varney, 604 Washington Arcade, Detroit.
 Pharmacology and Therapeutics—Chairman, Lawrence Litchfield, Pittsburg, Pa.; vice chairman, George B. Wallace, New York; secretary, M. I. Wilbert, Twenty-fifth and E Sts., N. W., Washington, D. C.
 Pathology and Physiology—Chairman, Yandell Henderson, New Haven, Conn.; secretary, Leo Loeb, 4109 Pine St., Philadelphia.
 Genito-Urinary Diseases—Chairman, W. T. Belfield, Chicago; vice chairman, James Pedersen, New York; secretary, Hugh H. Young, Professional Bldg., Baltimore.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frostrville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothren, Walcott.
 Treasurer—J. S. Wood, Hot Springs.
 Secretary—Morgan Smith, Little Rock.
 Delegate to American Medical Association—J. F. Clegg, Siloam Springs.
 Alternate—R. H. Barry, Hot Springs.

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Original Articles.

MODERN METHODS OF TREATMENT FOR SEVERE PROLAPSE OF THE UTERUS.*

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I wish to say, gentlemen, that I greatly appreciate the privilege of being with you, and I thank you most heartily for the kind invitation that brings me here. The subject which I have chosen for discussion is one which is of interest to the general practitioner as well as to the gynecologist. It pertains to the handling of cases of marked prolapse of the uterus—both the operative cases and the nonoperative cases. I shall not consider the milder grades of prolapse, but only the severe cases—such, for example, as are shown in these charts. What advice shall we give the patient who comes to us for relief from this condition? Is it advisable to operate, and, if so, what form of operation should be chosen? If, on the other hand, the condition of the patient is such that operation is contraindicated, what palliative measures will prove most satisfactory?

OPERATIVE TREATMENT.—Until recent years the ultimate results of operative treatment for the severe grades of prolapse have not been very satisfactory. When dependence was placed on plastic operations on the pelvic floor, the immediate result was good, but later the approximated tissues gradually stretched, finally permitting, in many cases, a return of the prolapse. The next step in

the evolution of the treatment was the employment of vaginal hysterectomy. The uterus, being practically outside the body, was easily removed by separating the bladder and rectum from it and then ligating the lateral vessels. This was hailed by some as the ideal treatment for prolapse of severe grade. It was claimed that if the prolapsed uterus were removed, it of course could not again prolapse, and hence the patient would be cured. The fallacy of this argument lay in the supposition that the descent of the uterus was the only important pathological feature. The real condition, however, was not simply descent of the uterus, but a hernia of the whole contents of the pelvis, the hernial mass including the bladder and intestine as well as the uterus. When the uterus was removed by the ordinary vaginal hysterectomy, the bladder and intestine still continued to prolapse, and were more difficult to hold back after removal of the uterus than before. This error was evident to those who were making a careful study of the condition, but it was overlooked by many operators. Consequently, ordinary vaginal hysterectomy was employed extensively for a time, with the result that there were many failures, and some patients were in a worse condition than before operation. In 1898, when the popularity of the operation in this country was at its height, I pointed out in an article* the fallacy above mentioned and condemned the operation as a curative treatment for prolapse, and substantiated my statements in a concrete way by giving the details of two cases which had come under my care subsequent to operation. In each case the protrusion had recurred within a few months after hysterectomy, and when the patients came under my care each pre-

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

** "Vaginal Hysterectomy for Prolapsus," Western Medical and Surgical Gazette, 1898.

sented a large hernial mass, consisting of vagina, bladder and intestine. The treatment, both palliative and curative, was much more difficult than if the uterus had not been removed. I finally succeeded in effecting a cure—in one case by opening the abdomen and attaching the vaginal stump firmly to the anterior abdominal wall, and in the other case (in which the patient was in no condition for abdominal operation) by denudation and complete closure of the vagina by circular sutures of silver wire.

As similar cases were reported from time to time, and as the complex nature of the conditions in prolapsus uteri became more thoroughly understood, vaginal hysterectomy by the old technic was gradually abandoned. In place of it there developed the present technic of vaginal hysterectomy and the other operations now employed.

Of these newer operations, there are two which I have found most useful in my work. These have stood the test of experience long enough and extensively enough to enable us to speak with certainty as to their effectiveness. In considering these operations, I cannot go into the details of individual cases, for there is not time, but will confine myself to a brief discussion of the operations and of certain practical points brought out in my experience with them.

The form of operation to be employed in a particular case depends, first, upon whether or not future pregnancy can be eliminated.

Future Pregnancy Eliminated.—In a large proportion of the severe cases of prolapse the patient is past the menopause, and hence there is no chance of future pregnancy. In other cases, though the patient is still in the child-bearing period, the hernia of the pelvic structures is so marked and the suffering so great that a radical operation is indicated, even though it sacrifice the possibility of future pregnancy. This holds true in most of the severe cases where the patient has had several children or where she is near the age of forty. In these cases the patient may be permanently cured by hysterectomy with high fixation of the vaginal stump, or by separation of the bladder from the uterus and fastening of the uterus between the bladder and the vagina. This last is known as the interposition operation, and I shall consider it first, for it is the operation of choice in all these cases where the uterus is not so diseased as to require removal.

Interposition Operation.—It is called the

“interposition operation,” as you know, because the uterus is interposed between the bladder and the vagina. It is called, also, the Freund-Wertheim operation, because these men were largely instrumental in its development. The steps, in brief, are as follows:

1. The bladder is separated extensively from the vagina and from the uterus, and the peritoneal cavity is opened.

2. The fundus uteri is brought down into the vagina and the cut edge of the bladder-peritoneum is fastened by two or three sutures to the posterior surface of the uterus at the level of the sacro-uterine ligaments. This shuts off the peritoneal cavity from the operative field and makes the remaining part of the work practically extraperitoneal.

3. The fundus uteri is then sutured on each side to strong tissues beside the bladder, so that these tissues and the fundus together form a strong supporting floor beneath the uplifted bladder.

4. The vaginal wall is then closed over the corpus uteri, the excess of vaginal flaps being trimmed off and a small area of the peritoneal surface being left exposed in the vagina.

5. The operation is completed by a thorough repair of the pelvic floor in the usual way.

SPECIAL POINTS.—(a) The excess of vaginal flaps should be trimmed off. This applies not only to the anterior and middle portion of each flap, but also to the posterior portion about the cervix. This should be trimmed on each side so that when the sutures are placed and tied the vaginal wall and deeper tissues lateral to the cervix will be drawn together in front of the cervix, thus holding the cervix well up in the pelvis. (b) In suturing the fundus uteri in place under the bladder, care should be taken to suture it to tissues which take firm hold of the bony pelvis, so as to form a strong support in this situation. Otherwise there may be, after a time, prolapse of the fundus uteri through the vaginal opening. Cases have been reported where this happened, owing to the large, heavy uterus and imperfect fastening. (c) A portion of the peritoneal surface of the uterus is left exposed in the vagina, so as to give a very firm scar tissue union of the fundus uteri to the vaginal wall. This is to prevent the return of the fundus uteri to its old position. In some reported cases in which the operation was completed by simply suturing the vaginal wall together

under the uterus, the fundus uteri gradually pulled away from the vaginal wall and slipped up from under the bladder, and there was subsequent prolapse of the bladder, as before operation. (d) If there is marked elongation of the cervix, as is seen not infrequently in these cases, a part of the long cervix may be removed. (e) If the patient is still in the child-bearing period, the possibility of future pregnancy must be eliminated by excision of half an inch of the Fallopian tube near the uterus on each side. At the site of the excision the sutures should be passed so as to separate the ends of the tube and bury them in the connective tissue of the broad ligament. (f) If there is present a diseased ovary or a diseased tube, it should, of course, be removed. (g) If on exposure the corpus uteri is found greatly enlarged, or so diseased that it is likely to give trouble, the case had then best be treated by vaginal hysterectomy, as described later. (h) It is important to prevent distension of the bladder for several days subsequent to operation. This is best accomplished by a retention catheter introduced at the close of the operation. This keeps the bladder emptied without discomfort to the patient, and I think is less likely to cause cystitis than frequent catheterization. A urinary antiseptic should be given both before and after operation. The retention catheter is removed in four days, after which the patient can usually pass the urine easily.

The advantage of this operation is in the retention and utilization of the uterine body, which aids materially in supporting the bladder and in covering the weak place in the pelvic floor. The marked anterior displacement of the uterus, which it was thought at first might cause troublesome symptoms, has been found not to do so.

This operation is the outgrowth of the old "vagino-fixation" of Mackenrodt, which was at one time extensively employed for retro-displacement of the uterus, but had to be abandoned on account of the serious difficulties resulting from subsequent pregnancies. The transition was gradual. The partial separation of the bladder in vagino-fixation was extended to complete separation of the bladder from the vagina and uterus, with fastening of the corpus uteri between the bladder and the vagina. A number of workers in gynecology had to do with the development and perfection of this operation, which is now used so successfully for uterine

prolapse and also for extensive cystocele. Probably most credit is due to Freund and Wertheim abroad, and to T. J. Watkins in this country.

The operation has now been on trial for ten years, and series of cases in sufficient number have accumulated to enable us to speak with certainty concerning the ultimate results. In a collection of 454 cases, including series from Schauta, Watkins, Doederlein, Kroenig, Schapenack, Baatz, Mayo, Frankenthal and others, there were but twelve known recurrences of decided extent. The majority of these patients were traced for some years. This gives 95 per cent of permanent cures. If all the patients had been traced, probably a few more recurrences would have been found. However, in some individual series, where the patients were all traced, the percentage of permanent cures was even higher. On the other hand, traced series of cases of ventro-fixation with repair of pelvic floor gave only about 70 per cent, while vaginal hysterectomy gave but 75 per cent of permanent cures. But the vaginal hysterectomy cases probably included a number of cases executed by the old technic.

It is instructive to study the causes of recurrence in the few cases which have recurred after the interposition operation. Three principal causes of recurrence have been noted. The first is stretching of the repaired pelvic floor, with lowering of the cervix and subsequent prolapse of the vaginal wall and cervix. This is to be guarded against by very thorough repair of the pelvic floor, and also by suturing the tissues lateral to the cervix together in front of the cervix, as explained under the technic. A second cause of recurrence is loosening up and stretching of the attachment of the fundus uteri to the vaginal wall, so that the fundus slips up from under the bladder and into its former position, permitting a return of the cystocele. This is prevented by leaving a part of the fundus uteri exposed in the vagina, as previously explained, which results in a very firm scar tissue attachment of the uterus to the vaginal wall. A third condition found in recurrence is protrusion of a heavy fundus uteri into the vagina and out of the vaginal opening. To prevent this, the pelvic floor should be repaired very strongly, the corpus uteri should be fastened, not to loose tissue about the vaginal wall and bladder, but to strong tissues that have firm attachment to the bony pelvis, and, furthermore, the en-

larged uterus should be reduced in size. This last condition is one that admits of solution in several ways. If the enlargement is principally in the cervix, it is well to amputate enough of the cervix to reduce the uterus to approximately normal size. If the enlargement is principally in the upper part of the uterus, a wedge-shaped piece of the fundus may be removed. Another way suggested by Watkins is to split the anterior surface of the uterus, remove as much as necessary from the sides of the incision, and remove the mucosa from the remaining portion of the uterus, leaving simply enough uterine muscle to assist in forming a firm support beneath the bladder.

VAGINAL HYSTERECTOMY.—This differs from the old vaginal hysterectomy. The broad ligament pedicle of each side, including the round ligament, is brought down into the open end of the vagina and sutured there. This draws the vagina, and with it the bladder, well up into the pelvis, and this drawing up effect is still further increased by the scar-tissue contraction subsequent to operation. Also, in this operation, the ligaments from each side are sutured firmly together across the pelvis. If there is marked cystocele, the bladder is separated from the vagina and lifted up, and the tissues are sutured together beneath it. The closure of the pelvic outlet is still further strengthened by a thorough repair of the pelvic floor.

Hysterectomy is indicated in those cases of prolapse in which the uterus is so diseased that it is likely to give trouble if preserved, as in the following classes: (a) When the uterus is enlarged by numerous fibromyomatous nodules. (b) When the uterus is the seat of "myopathia hemorrhagica," which causes persistent hemorrhage in spite of repeated curettage. (c) When there are deep cervical tears with extensive scar-tissue formation and persistent irritation. In some such cases amputation of the cervix is sufficient, while in others hysterectomy is preferable. (d) When the uterus is the seat of painful cirrhosis ("irritable uterus"). There is also the question of malignant disease of the uterus, which must, of course, be settled definitely before operating for the prolapse, for if malignant disease is present, wide removal of the parametrium is required.

Future Pregnancy Possible.—Where the possibility of future pregnancy is to be preserved, we must fall back on procedures that are less certain to hold the uterus in place,

though they do so in a large proportion of the cases. I have most confidence in a firm forward and upward fastening of the uterus by transplantation of the round ligaments in the abdominal wall, supplemented by a thorough repair of the pelvic floor. The method I employ for transplantation of the round ligament in these cases is the same as I employ for retrodisplacement of the uterus. I devised this method about four years ago, and have used it with much satisfaction since. It was described in detail in an article three years ago in the *Journal of the American Medical Association*.^{*} In severe cases it is well, also, to fasten the cervix well backward and upward in the pelvis by intraperitoneal shortening of the sacro-uterine ligaments. If there is marked cystocele, the bladder should be separated from the vagina and the lateral tissue brought together so as to form a firm support beneath the bladder. If the cervix is elongated or otherwise hypertrophied, it is to be amputated at the same time. In some cases all that is necessary can be done at one time, while in others it is advisable to divide the work into two operations.

NONOPERATIVE TREATMENT.—Some patients are in such poor physical condition on account of heart disease, or kidney disease, or other complication, that operation is out of the question. Other patients refuse operation, preferring to suffer the ills they have rather than brave the dangers of radical work. In all these cases much relief can be given by the various familiar palliative measures. There is one palliative to which I wish to call particular attention, and that is the Gehrung pessary. There is no other measure that I have used with so much satisfaction in these very troublesome inoperable cases. In these cases the ordinary pessaries used in retroversion and the inflated ring pessaries and the large globe pessaries slip out, because there is not sufficient pelvic floor left to support them. But the Gehrung pessary is different. It is a double arch which pushes up behind the pubic bone and supports the bladder. The ends of the two arches are joined at each side to form a foot or heel. The heel of each side lies well out to the side of the pelvis and catches on even a small remnant of the pelvic floor. This

^{*}"The Preferable Method of Anterior Fixation of Uterus When the Abdomen Is Open." The president's address, St. Louis Obstetrical and Gynecological Society. H. S. Crossen, M. D., *Journal A. M. A.*, Vol. XLVIII, p. 1488.

is the reason it acts effectively where other pessaries fail. After it has been worn for a time, the heel on each side forms a little depression, in which it rests securely and without discomfort. The double arch holds up the bladder and the uterus. By means of this I have enabled patients who could not retain an ordinary pessary more than a few hours to live comfortably and work without protrusion and without distress. Of course, there are rare cases in which the pelvic floor has been so stretched that there is practically none remaining—not even enough for this pessary to catch on.

Next to the Gehrung pessary in point of efficiency I place the Menge pessary. It is a more simple and easily understood application of the principle upon which the success of the Gehrung pessary depends. That principle is the utilization of the remnant of the pelvic sling remaining at the side of the pelvis. In nearly all cases of even severe prolapse there still remains at each side a remnant of the pelvic floor which will furnish support, provided the pressure is placed well laterally and is directly from above, and is not exerted in the form of a wedge tending to dilate the vaginal opening and obliterate the shelf. Now, if you put a wide, firm disk or ring pessary in the vagina and then turn it crosswise, it will hold the hernia back very well. But it soon works around so that the long diameter is no longer crosswise of the vagina, but lengthwise. Then it slips out. The Menge pessary is such a solid ring, with a stem attachment which keeps it from turning. The heavy ring is introduced and turned crosswise of the vagina, the stem is then attached. This stem lies along the vaginal canal and keeps the ring from turning into such a position that it can slip out. This is more easily understood, and hence more easily handled than the Gehrung pessary, but it does not approach the latter in lightness and comfort.

DISCUSSION.

Dr. Dunaway—I owe the society an apology for coming in late. I heard but a small portion of Dr. Crossen's excellent paper. I did not rise to discuss the subject. Dr. Crossen is a teacher of many years' experience, and as a teacher of gynecology, and author, it would be presumption on my part to discuss what he says to us. I merely come before you to offer him my thanks and the appreciation of the members of the Arkansas

Medical Society for being kind enough to bring us a paper on so important a subject. The subject, as he has given it to us in the latter part of the essay, is one that all of us as general practitioners are interested in, and I am sure we shall profit greatly from it.

Dr. Thibault (Scott)—I, of course, am not a gynecologist, and have had no experience in the operations which the doctor discusses; but I have seen three cases of complete prolapse of the uterus in young girls. The question I would like to ask is, What is the etiology of this condition? All of them occurred in negroes.

One I saw was in a girl of fifteen. As far back as she could remember the uterus was completely prolapsed. It was undoubtedly prolapsed for a long time, because the mucous membrane had taken on those cutaneous characteristics so often apparent when exposed to the atmosphere; that is, keratosis of the epithelial cells. All of them were young and unmarried—practically children; all of them colored. Two of them got married afterward; in one of them the uterus was irreducible, and none of them, I am positive, was ever cured. In two of the cases it was impossible to reduce the prolapse mechanically, they had been down so long. One of the cases contracted gonorrhea after marriage. At the time I saw her there were no adhesions, but evidently adhesions developed afterward, and the uterus could not be replaced.

Another question I would like to ask is, will the resection of the Fallopian tube, which he speaks of, always guarantee against future pregnancy?

Dr. Crossen—In regard to the questions asked: Prolapse of the uterus in the virgin is, of course, very rare. In most cases there has been something that caused persistent straining, such as stricture of the rectum, chronic colitis, severe chronic cystitis, etc. Occasionally there is no sufficient cause apparent—that is, there is nothing we can put our finger on as accounting satisfactorily for the prolapse. This latter class constitutes one of the curiosities of the gynecologic world. The other question, in regard to whether resection of the tube will always prevent pregnancy. Not unless it is carried out in the proper way. The proper way is to take out a piece of the tube and then turn each of the remaining cut ends down into the connective tissue and suture them there.

In that way the two ends are entirely separated, with no chance for restoration of the continuity of the tube.

Now, some special points relating to this "interposition operation." The vaginal flaps should be trimmed sufficiently to remove redundant tissue, so that when sutured these flaps will assist in supporting the uterus. Again, in suturing the fundus uteri in place under the bladder, care should be exercised to suture it to tissues that take firm hold of the bony arch, so as to form a strong support in this situation. Again, a portion of the peritoneal surface of the uterus should be left exposed in the vagina, so as to give a very firm scar-tissue union of the fundus uteri to the vaginal wall. This is to prevent the return of the fundus uteri to its former position. Enlargement of the uterus is a troublesome factor in many of these cases. If the enlargement is principally in the cervix, a portion of the cervix uteri may be amputated. If the enlargement is principally in the corpus uteri, a wedge-shaped section of the fundus may be excised and the mucosa eradicated from the remaining part, after the manner of Watkins, as shown in the illustrations. If, on exposure, the uterus is found so enlarged or diseased that it is likely to give trouble in spite of the above treatment, vaginal hysterectomy (with high fixation of the pedicles) is then indicated.

It is important to keep the bladder empty for some days subsequent to operation. For this purpose I use the retention catheter, introduced at the close of the operation, and consider it decidedly safer and more comfortable than the frequent catheterization otherwise required. As a precaution against cystitis, some reliable urinary antiseptic should be given for some days before operation, and also after operation until the urine is passed normally.

INFANT MORTALITY.*

J. T. Clegg, M. D., Siloam Springs.

In presenting this paper I do not propose to set forth any new doctrine or rehash any old theory, but to call attention to one of the most disastrous calamities that affect the human race. We tremble at the prospect of war

and shudder at the thought of the number slain in battle. We are appalled at the death rate from tuberculosis, typhoid fever and epidemic diseases. We have speakers on the stump, lecturers on the platform, preachers in the pulpit, depicting the ravages of alcohol, but more children die before attaining the age of five than die from all these causes combined. When one person dies from the effects of alcohol in any way whatever, five thousand babies die of one condition or another.

It is the approbrium of human society that 25 per cent of all the deaths of its population occur before the victim reaches the age of five years.

It is fearful to contemplate the suffering this fact entails, suffering the more horrible because it is useless suffering. When we contemplate the anguish of pregnancy, the pains of parturition and the cares of motherhood, one-fourth of the sum total of the whole only to end in the heartaches of grief over the death of the child, we can in some measure begin to realize the importance of this subject.

The cause of infant mortality may be stated as being due to hereditary influence of the father or mother, or both, prenatal conditions developing during gestation, accidents or injuries occurring at birth, improper care immediately after birth, defective development of various organs or structures necessary for the nutrition and growth of the child, improper feeding and infectious diseases.

It is obvious that many of these causes cannot, with our present knowledge, be abolished; namely, conditions developing during gestation and defective development of various organs or structures necessary for the nutrition of the child after birth. The causes avoidable and possible to be overcome are in some instances hereditary influences, such as syphilis and tuberculosis in the parents, accidents or injuries occurring at birth, improper feeding and many infectious diseases. To this end I deem it our duty as a profession to begin with the education of the mothers, education by any means available in the duties and cares of maternity, and not leave so important a subject to sophists and visionaries, who contribute so prolifically to the popular magazines of the times; as individual physicians, to give closer attention and care of the pregnant woman in our charge, to better fit her for the ordeal of labor and the sustaining of her child during its nursing

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

period, and to become better obstetricians, that we may diminish the number of accidents and injuries at birth. Great strides have been made in the past few years in the science of general sanitation, and some work has been done in the line of infant sanitation, but the field is a large one and hard to cultivate, and the workers are few.

It remains a fact that babies under certain environments thrive better than babies under different environments. In crowded cities in unwholesome localities the death rate under five years of age attains the enormous proportions of 50 per cent of all the deaths. Hand in hand with infant sanitation, perhaps inseparable from it, is the subject of infant feeding. The assertion is as old as it is true that the best food for the baby is the mother's milk; but a large per cent of mothers, from one reason or another, fail to nurse their babies. It would be interesting to know just what the percentage is. In my own observation the proportion is about one to ten, or 10 per cent. Various substitutes for mothers' milk have been devised, practically all of which have been found wanting. Fresh cow's milk, unless handled with better care than is done in the average dairy, is undoubtedly a dangerous food. The milk from the farm is equally as bad, if not worse. The milk is milked by unclean hands from unclean udders, often into unclean vessels, and sold in unclean containers, vessels and containers exposed to pollution by flies that have had access to the horse stables, the filth of the barnyard and open privies. No attention is paid to the proper filtering, cooling, separating and remixing. All of which tend to render it impure and unfit for infant feeding. Canned milk is somewhat better here. This milk is condensed and canned while sterile, and can be mixed with suitable percentages of fat, sugar and proteins that render it less dangerous and more suitable to the nourishment and development of the child. It will be impossible to describe all the errors often made in feeding infants and children. It is too well known that many things are fed to them that should not be, such as fruits, cakes, candies, pastries; but one or two I wish to mention. I allude to fruits grown in contact with the ground—for instance, the strawberry. The berry, of itself, is perhaps harmless, but it is sometimes the bearer of microorganisms capable of setting up very violent intestinal disturbances. The same, perhaps, is true of the fruits grown in the

tropics, with the exception, probably, of the citrus varieties, as the orange and lemon. Another source of food pollution that contributes to ill health of the children in rural districts is the fruits, vegetables, candies and other stuff sold at the country stores. These various articles are displayed from day to day on counters, boxes and sidewalks, without any effort at protection from flies and other prolific sources of infection, and are sold without any compunction of conscience to innocent mothers, who feed them to more innocent babes, with the result often of becoming the patron of an undertaker, wondering ever after why the doctor did not save the life of her child. The problem of infant feeding is even more difficult of solution in rural districts than in the cities. On account not only of the impurities of the cows' milk before it reaches the baby, but also on account of its uncertain composition, the average practitioner remote from a laboratory has no means of determining a definite percentage of fat, sugar or protein he is feeding. This is especially true of milk from unspected dairies that supply practically all small cities and towns. Analyses show that all proprietary infant food, malted milk and so-called substitutes for mothers' milk are in composition unfit for infant nutrition.

The bad results of bottle feeding are familiar to you all. In addition, however, to intestinal disorders, general inanition, rickets, etc., I want to mention what is too often overlooked in apparently better nourished infants; that is scurvy, several cases of which have come under my observation in bottle-fed babies. Improvement could be made in the food for infants, even in country districts, by closer attention to the milk supply, instructing the milkman in the necessity of being clean in the handling of the milk, separating immediately after milking, putting it at once on ice and remixing it with such modification suitable to the age and condition of the child as possible. It would be a desideratum indeed if manufacturers of various brands of canned milk would, instead of putting directions on the labels of how to mix the contents for infant feeding, give the exact proportion of each ingredient the can contains and the process by which it was made. In doing that it would enable a doctor to construct an ideal food, as near as possible, in modifying the percentages by adding such properties as might be lacking; for instance, if one brand of food was too rich in protein

and too poor in fat and sugar, fat and sugar could be added sufficiently to bring it up to proper proportions, and vice versa.

In conclusion, would urge mothers in all possible cases to nurse their infants; when such, from any cause, is absolutely impossible, to feed the baby on modified cow's milk, under circumstances where such modification can be made with clean milk. If not, to use the most reliable brands of canned milk and canned cream, mixing with such percentages as to nearly resemble human milk as possible.

DISCUSSION.

Dr. Walker (Newport)—I don't like to see this paper pass without being discussed. I agree with what he says in regard to the use of canned milk, especially with the people in the rural districts who are not prepared to take care of fresh milk and people who seem to be unable to understand the doctor's precautions fully in how to prepare cows' milk. They won't take the trouble to do it. You can't impress upon them or make them realize what it means. As long as the baby is sick they will do what you want for two or three days. After the baby gets better they will say, "That doctor is an old fool; I'm not going to do it." I find in my experience with the poorer classes, who can't afford ice boxes and can't afford to have a nurse to take care of the baby, that you get better results with the condensed milk. Of course, the main trouble with most all bottle-fed babies is that the milk is made too strong and they are fed too often. Of course, it's a mighty easy thing to get the baby to hush crying to put the bottle in its mouth and give it more. That's a common error made by the mother.

I think what Dr. Clegg says about the child eating fruits and things on display at these country stores, where it has been polluted by flies and one thing and another, is a point well taken. Of course, if the mother would carry out the procedure that the doctor gives when he calls to see a sick child, they would not have as many deaths from enteric infections. But they won't do that. They listen to you while the child is sick, but as soon as it gets better they pay no attention to it—let the child eat what it wants until it gets worse again.

ACUTE OTITIS MEDIA AND MASTOID ABSCESS IN CHILDREN.*

Robert Caldwell, M. D., Little Rock.

Of all inflammatory conditions, there is probably none that more frequently gives rise to obscure febrile symptoms and whose pathology is less clearly defined by characteristic objective and subjective symptoms than acute otitis media of infants and children; thereby more easily deceiving the physician as to the true cause of the affection.

The anatomy of the ear and adjacent structures of the child and infant predispose them to infection more than older people. The Eustachian tube, middle ear and antrum of children are relatively large, hence more easily affected; while the mastoid cells are imperfectly developed. This explains the greater frequency of extensions to temporal bone and brain, compared to the greater frequency of mastoiditis in older people. The embryonic character of the mucosa, which still exists during the first few years of life, may be regarded as a predisposing cause for the frequent diseased condition of the mucous membrane of the middle ear.

ETIOLOGY.—The etiology of acute otitis media may be considered from two standpoints: (1) As regards predisposing causes, and (2) immediate cause.

Of the predisposing causes, adenoids well deserve most attention, not alone the adenoid proper, but all the adenoid tissue that is located in the rhino-pharynx. Of especial significance is that adenoid tissue located in Rosenmuller's fossæ and around the orifice of the Eustachian tube. Following as a close second will be hypertrophied tonsils; not particularly that tonsil that projects out into the throat and has been the easy prey for the tonsillotome for years, but that so-called submerged tonsil, whose upper part is completely covered by bands and folds of the pillars. Not only through their ability to dam up and retain secretions and be a hotbed for infection, they will act as factors, but also from their power to create a passive congestion.

The immediate cause is always some infective condition of the rhino-pharynx, ae-

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companying colds in the head, tonsillitis, scarlet fever, epidemic influenza, measles, diphtheria, typhoid fever, etc. The nasal douche may be responsible for the entrance of infective material into the Eustachian tube. The same may be said of blowing the nose hard, struggling and crying in children, coughing and vomiting. The entrance of water into the external auditory canal may cause otitis media.

There are two varieties of acute otitis media, catarrhal and phlegmonous. The first is an inflammation of the mucous membrane alone, whose products are serum or muco-pus. It is generally confined to the lower tympanic cavity.

The second is a more virulent type. It involves not only the mucous membrane, but cellular tissue as well. There is a great number of microorganisms, generally involving the upper part of the tympanic cavity, the attic, due to the fact that here we have more cellular tissue, bands, folds and reduplication of tissue. The catarrhal form usually gets well in the course of a few days, while the phlegmonous leads on to sloughing or rupture of the drum membrane. It may lead to necrosis of the ossicles and bony walls of the orbit, necrosis of the petrous bone, pachymeningitis, lateral sinus thrombosis, purulent meningitis, or cerebral abscess. I will not attempt to discuss the two varieties separately.

SYMPTOMS.—The symptoms are very variable, and there are few that are characteristic of the condition. The most constant ones are pain and fever. It usually begins with a slight fever of 100 to 102 degrees, may be 104 or 105 degrees, which is often irregular and intermittent. Pain is more marked in older children.

There will be great restlessness and sleeplessness, and the child seems to be very ill. In older children we will have the characteristic earache. We will have to our advantage a history of some catarrhal affection of the nose or throat. Some cases may from the start be characterized by dullness, apathy, anorexia, nausea and vomiting, with no evidence of pain; which, of course, would lead us to suspect some bowel trouble. Ear pain, when catarrhal, is generally worse in the evening and at night, often remitting in the course of the day. Coughing, hawking, swallowing and deructation usually make the pain worse. Subjective noises, as whistling, singing, hissing and whizzing often are present. In the early stages the disturbance to hearing is very

moderate; later, the inability to hear well may be very well marked.

On examination we will often find tenderness in front, behind or in the ear, and over the side of the head. Early in the disease we will see redness and congestion; later, bulging of the drum. If the drum has ruptured, serum or pus will be found in the auditory canal. Often we will see bubbles of air in the pus, and pulsations of the pus. On cleaning the canal, we may be able to see the perforation in the drum.

DIAGNOSIS.—In making our diagnosis, we shall have to depend most on our physical examination. By the use of our head mirror and speculum we note the condition of the auditory canal and the drum; slight redness along the handle of the malleus, followed later by bulging, and if not opened, then rupture. This, with the above symptoms, will most likely lead us to a correct diagnosis. The inflammation does not necessarily lead to suppuration; it may subside.

The course of the disease depends on the intensity of the process, the cause of the disease, the general condition of the patient and the treatment. It generally runs from several hours to three weeks or more. With the commencement of the discharge the fever usually disappears or falls and the pain ceases. These favorable terminations are less liable to happen in cachetic, nervous or tubercular individuals; also in the acute infectious diseases, as influenza, diphtheria, scarlet fever, measles, etc.

Unfavorable symptoms are undiminished discharge, continued pain and fever, painful swelling of the mastoid, swelling in the meatus, marked infiltration, and suppuration of the glands in the lateral region of the neck, functional disturbances in region of the facial nerve, or symptoms of meningeal irritation.

PROGNOSIS.—The prognosis is favorable if the otitis follows a cold in the head or a sore throat, and the patient is healthy and surrounded by good conditions, but if accompanied with the acute contagious diseases, or the patient is anemic, strumous or tubercular, it is more unfavorable.

Otitis media often has a great tendency to recur, and we will find patients suffering from two or three attacks during the winter. In those cases we will be powerless to ward off the attacks unless we give our attention to the adenoids and tonsils. The condition usually terminates in recovery. Acute suppurative otitis media may terminate in chronic

secretory catarrh, chronic suppurative otitis media, mastoiditis, extension to dura mater, making epidural abscess, pachymeningitis, meningitis, sinus thrombosis, or death from general septicemia.

TREATMENT.—Before we begin any treatment of otitis media, we owe it to the patient that we make a thorough examination of the ear and ear drum by means of reflected light. If we find the drum slightly congested and no evidence of pent-up secretion, our treatment will be palliative. Hot applications, 10 per cent carbolic acid in glycerin dropped in the ear warm, 4 or 5 per cent cocain dropped in the ear, anodynes to control the pain, leeches applied below the lobe of the ear, local and internal treatment for the catarrhal condition of the nose and naso-pharynx. Some authorities recommend the application of ice to the ear in early otitis media. My patients, as a rule, have objected to ice. Therapeutically, I believe in it; but practically I have had no appreciable benefit.

Paracentesis should be performed as early as possible after there are evidences of bulging at the most prominent points of the drum, in order to establish free exit for the accumulated serum, or pus. The auditory canal should be made aseptic by irrigation with bichloride solution before puncturing the drum, as it may be possible for a suppurative process to follow a catarrhal inflammation by means of infection through the open drum.

ANESTHETIC.—In my experience I have found it obligatory to operate under general anesthesia; ether preferred.

By an early paracentesis we not only rapidly alleviate the pain, but also help remove the danger of extension to the mastoid cells and cranial cavity. After the paracentesis, the secretion does not always appear in the form of pus, but as a red serum, or as a clear, yellowish viscid fluid, which assumes a purulent or blennorrhic character only after a few days. This fact deserves especial attention, since after paracentesis the family may expect to see a great flow of pus, but instead will see only a flow of serum tinged with blood.

After the perforation has been established, we content ourselves for the first few days with irrigation. Irrigate the external auditory canal with a warm saline or boric acid solution, by means of an ordinary fountain syringe, held about one foot above the ear, and the small rectal tube inserted in the canal, being careful to see that the tube is at the

upper quadrant of the canal, so the water can drain underneath the tube. In no instance allow the tube to fit tightly in the canal. Irrigate sufficiently to keep the canal clean. Generally, twice or three times a day is sufficient. Dry the canal thoroughly with cotton on an applicator after every irrigation; dust a small amount of boric acid into the canal after drying the ear, by means of a scoop powder blower. In no instance have I ever heard that the boric acid has dammed up the secretions and augmented the condition, as I have known iodoform and other less soluble powders to do. Some practitioners decry irrigation, asserting that we are liable to force infection into the attic and mastoid. If used as above suggested this will never happen, while in the event we do not irrigate we are likely to be face to face with a furunculosis of external auditory canal, which is very distressing in these cases indeed, since it obscures our view of the drum and inner extremity of the canal, thereby shutting off one of our guides as to the progress of our case.

In the event the discharge decreases, yet does not entirely stop in a week or ten days, I often use—

Zinci sulphas gr. 5.

Acid boric gr. 10.

Aqua dist. oz. 1.

Alcohol oz. 1.

Sig.—Ten drops in the ear three times a day.

Some physicians recommend H_2O_2 , and in my opinion we are perfectly safe in using it where we have a large perforation. I often use peroxide on a cotton applicator in older children, cleanse the canal thoroughly, then use acid boric.

In the older children generally, after the disease has run five to eight days, I begin blowing air through the tube by Politzer's method once a day. This facilitates drainage, clears middle ear, prevents adhesive bands from forming, improves the hearing, and will often shorten the course of an attack by several days' duration. It is difficult of application in infants, but I have found it very well borne by children over four years of age.

This past winter I have been using a fifty-candle power electric light, by means of a colored blue glass in front of the light, from five to ten minutes' exposure to the mastoid twice a day. I will not attempt to say that it did any good, but must admit that the patients expressed themselves as feeling better every time after using it, and looked forward

with pleasant anticipations to the time of using the light.

By way of prophylaxis, after the affection has run its course, the external meatus should be protected with cotton wool against cold and windy weather.

Politzer has demonstrated the fact that in almost all cases of acute suppurative otitis media we have an involvement of the mastoid, but as long as we have efficient drainage and no symptom of pent-up secretion evident, we treat the case as above. But if, after paracentesis or perforation, the pain and fever continue with uninterrupted severity, and the ear discharge does not promptly cease after establishment of good drainage, and in which anemia, prostration, continued fever and malnutrition becomes evident, and especially where we have swelling above and behind the ear, or bulging of the superior posterior wall of interior extremity of auditory canal, we are justified in suspecting some periosteal inflammation of the tympanic cavity or coincident abscess formation in the mastoid cavity, in which instances a mastoid operation would be indicated.

In infants and children the mastoid cells are very poorly developed, and the mastoid antrum lies directly underneath a thin plate of the squamous portions of the temporal bone, which plate is sometimes paper thin. This accounts for the frequent occurrence of subperiosteal mastoid abscesses in children. Our pain and tenderness will not help us much here, as in older people. There may not be much pain in mastoiditis, and the child may be so touchy we cannot be certain of tenderness.

OPERATION.—I will not attempt to give a complete description of the mastoid operation in infants, but will rather content myself with pointing out a few cases of the differences between the mastoid operation in these cases and in older people.

In making our incision, we will begin below at a point posterior to and on a level with the middle of the external auditory canal, carrying our incision upward to a point above and posterior to the upper part of the ear. On account of there being no mastoid cells in infants, the facial nerve emerges from the mastoid foramen sometimes as high up as the external auditory canal. We must begin our incision above this exit or we may sever the facial nerve. The operator will not exert any great pressure on the knife while making the incision for fear of entering the cranial cavity; cut through the skin and dissect to

the bone. Dissect back the tissues and locate our supra meatal triangle by means of the temporal ridge squamo-mastoid suture and superior posterior border of the canal, which we will find located not behind the auditory canal, as in older people, but in a much higher plane. Any attempt to enter the mastoid, as in older people, would fail and endanger the facial nerve.

Open the antrum in the usual way by means of a chisel and mallet, making very light strokes with the mallet, after which the overhanging ledges can be bitten away by a small bone forceps. The interior of the antrum is then curetted with thoroughness, but with the exercise of very great gentleness and care. The wound is then packed with iodoform gauze and a bandage applied. I always remove the dressing on the second or third day and pack the wound at each succeeding dressing until it has entirely healed.

DISCUSSION.

Dr. Mann (Texarkana)—I wish to thank Dr. Caldwell very much for his excellent paper. There are in this country a great many who neglect ear troubles—diseases of the ear. They have been neglected so much over the Southwest. People seem to think that earache is of so slight importance. I heard a friend of mine recently make the statement that whenever a child came to him with the earache he did a paracentesis at once, which I think was a very incorrect way to put it; but we should not treat earache slightly. We should not treat it slightly from this fact: A child will rarely have earache or have any trouble with the ear without some cause for it, and, as Dr. Caldwell has stated, that cause is usually an adenoid. The first thing for us to do is to find out the cause. The next thing is an examination of the ear, and if you find a red drum, in inflamed drum, you are going to have an abscess, and the first and the best thing to do is to drain, and drain at once. This is best done by means of paracentesis of the drum membrane of the ear. If this does not cure your patient after a sufficient time has elapsed, and you have a mastoid involvement, as he says, don't defer a mastoid operation too long. A mastoid operation is not a very severe operation if done early. The trouble about mastoid operations is that we wait sometimes until it is too late, when there is too much involvement, and the lateral sinus or the brain or other parts have become involved, and then hope for a cure,

by deferring the mastoid operation until the proper time for performing it has elapsed. As I said, just as soon as we know that there is an involvement, that there is pus in the mastoid, is the time to do this mastoid operation. In the mastoid operation we get drainage as well, and most of these cases, possibly nearly all of them, will recover if these few steps are followed out in the beginning.

I remember a few years ago of having to perform a mastoid operation on two babies, one thirteen months old and one sixteen months old, of different families and the only babies in the family. You can imagine the excitement and the worry around my office, with the mothers bringing their only children to me, and their babies, one thirteen and one sixteen months old, for a mastoid operation. I found pus in the mastoid of each one, and they made recoveries.

It is another unfortunate thing that mastoid operations are neglected, not only among the laity, but physicians themselves sometimes neglect them. It is a pitiable fact that one of the greatest surgeons the South ever produced died from a mastoid abscess. I say that is a pitiable fact. An operation a few years ago, which could have been done, if it had been performed in time, would have saved his life. It is a pitiable fact.

Another physician went to New Orleans last winter to have a mastoid operation performed, and when he got to New Orleans the doctor told him, "Doctor, you must have a mastoid operation." He went there thinking all the time he was going to have it, and said, "Good-bye, doctor," and picked up his grip and went back home to Texas, and then, when he saw that he wasn't going to recover in any other way, he telephoned me, or his doctor telephoned me to come down and do the operation at home. I said, "Why in the world didn't you have your operation in New Orleans, under the best circumstances in the world?" He said, "Doctor, I couldn't do it. I came back home." So physicians sometimes neglect themselves.

Dr. Thibault (Scott)—In regard to otitis media, I am not a specialist in diseases of the ear, but I had some experience last fall that I would like to report, not only to show the necessity of examining the ears, even when there are no symptoms of ear trouble, but to get some light on the subject from these gentlemen that make a specialty of troubles of the ear.

We had an epidemic of whooping cough. The first patient that I saw with this trouble was recovering from whooping cough, with a typical picture of cavernous thrombosis on the right side. There was ecchymosis, discoloration and puffiness around the eyes, and the patient was unconscious. A careful history brought out no symptom of ear trouble whatever. She had never complained of the ear, and did not have any pain there, and did not have even after I made diagnosis; but, having made some mistakes in the examination of children by not looking into the ear, as a matter of routine I examined the ear and found the membrane on the right side bulging under strong pressure, and immediately made a paracentesis. The pressure was so great that after the puncture was made the pus fairly gushed out in considerable quantity. The patient was relieved in the course of a few hours, and returned to consciousness. Her further trouble was only temporary, and she made an uneventful recovery.

I had a series of about eight cases, which were attacked similarly to this. In every case the ear on the right side was affected, and there was a typical clinical picture of cavernous thrombosis, and in every one of these cases, as soon as the middle ear was opened all the symptoms cleared up. The patients made recovery without any further treatment, except a small paracentesis through the drum membrane. But in every one of these cases there was an entire absence of any symptom of pain or deafness referable to the ear. Every one of the cases followed whooping cough. The part that I cannot understand is how the paracentesis remedied the constitutional disturbance that very often produced coma.

I saw one of these patients a few hours before she died. She had been treated by another physician. I did not make a diagnosis. The membrane had ruptured, and in practically half an hour from that time she was dead. There never had been any symptoms of ear trouble in any of the cases, except what was made on physical examination. None of these persons ever had pain in the ear, but after developing this condition that brought out the constitutional symptoms, and even after coma and septic fever, they all cleared up almost immediately upon paracentesis of the membrane without any further operation. This seems strange to me in view of the fact

that the conjunctiva was injected, the membrane inflamed, and ecchymosia and swelling around the eyes, typical in every way of cavernous thrombosis. We examined the pus from the ear, but could not positively identify the organism which was at fault. We sent some of the pus to a man better qualified than we were, to make examination, but he was unable to positively identify the primal cause of the disturbance in either of the specimens submitted. We are still in the dark as to which individual organism is concerned.

Dr. Blackburn—I think, Mr. Chairman, that the greatest mistake we in the country make is in not giving the tonsils and adenoids proper attention among those children whom we so frequently examine, who are subject to periodical attack of tonsillitis. I think that with the diligent use of the tonsillotome we would accomplish more in the prevention of otitis media than by any other method which we can pursue. We give too little attention to it. We are too prone to let the matter move along, and let these attacks recur from time to time, and prescribe some little antiseptic throat gargles and depend upon them. I think we should give more attention to that matter and removing the adenoids where they exist.

Dr. Moulton (Fort Smith)—Dr. Caldwell's paper does not leave much room for discussion, because he has covered the ground completely and intelligently, and the information given in the paper is a safe guide to follow in the handling of these cases. The most important thing that I can add in the way of discussion is to emphasize what he has said. There are one or two points in which my plan of procedure differs possibly a little from his; maybe not for good reasons.

I wish to emphasize the matter of diagnosis. The most important thing in mastoid diseases is prophylaxis; a large proportion of the mastoid cases could be avoided if an early diagnosis were made of the middle ear affections, and if early treatment were instituted. In these little children, these infants will often have diseases of the middle ear, and there will be nothing about the behavior of the infant to attract attention to the ear. In every case of illness in an infant, where a cause for its fever and restlessness is not apparent, the ear should be looked into. A common mistake in examining the ear is to examine it with insufficient light and with too large a speculum. Many an infant has a canal that is large enough to allow inspection of the drum membrane, even without a specu-

lum; on the other hand, there are many others who have such a small canal that a very small speculum is necessary. A careful inspection of the drum membrane should be made. Now, then, when you look into the child's ear and find that it has a red drum membrane, it is not necessary, just because the membrane is red, that it should be incised. But if it is bulging it must be incised, and the incision must be a free one. Now, of course, this incision in the drum membrane is the most important part of the treatment for these acute cases when the incision is necessary. However, many times the incision can be avoided by the institution of remedial measures. The first thing that should be done, if the case is only of a few hours or days, or so, standing, is to give the child some kind of a cathartic, calomel followed by castor oil, or perhaps even better would be the castor oil at once, to get a quick action of the bowels. The next thing is some local application to relieve the pain and the congestion in the drum of the ear.

Now, Dr. Caldwell spoke of the use of ice, and said that he didn't like to use ice very much because the patient objected to it. He is with me on that point. That brings up the point that I am about to make that even the application of hot water or the syringing of the ear with hot water, which is probably the most effective thing that can be done, will not always be tolerated by the children. They won't hold still; they struggle too much and make too much fuss about it. Time and again I have seen the parents give up trying to put hot water bottles, or even hot flannels, to a child's ear because the child was so restless on account of it, and would not want anything to touch its ear. Well, now, in such cases it is better to let the child lie over upon its well side, if it has a well side, and fill the ear. It can be filled with warm water, but that is not as effective, I think, as a mixture of chloroform and olive oil. A great many object to any oil in the ear, because it is liable to infect the ear. But a dram of chloroform in seven drams of olive oil is a sterile mixture, and the effect of that mixture in the ear is to supply heat or to produce the same effect that heat does. It causes a feeling of warmth; it increases the congestion of the canal the same as hot water does; it has identically the same effect that hot water has, and the child can be held upon its side, and in a little while it will become used to the application. Now, if you fill the ear with warm

water, the water soon cools. If you fill it with this chloroform mixture, the heat stays there. The effect stays there as long as the mixture remains in the ear. Time and again I have seen marked beneficial results from this application. The reason for it is that it is practicable to make it, and a fire does not have to be built in order to fill the hot water bottle. The child will tolerate that when it will tolerate anything else. Consequently, you have the easiest method of applying the warmth, or the effect of warmth to the ear.

In regard to syringing the ear after a paracentesis, I formerly did that, but from a few observations in adults in whom I had made a paracentesis I was led to believe that it was probably true in some instances the stream of water might do harm from the fact that in syringing the ear with a large incision which extends through the whole diameter of the drum membrane periphery, the water will find its way, the antiseptic solution will find its way, into the drum cavity, which is just opened and sensitive, and in the few cases in adults where I have used this method, severe pain will be caused after the syringing. Consequently I was led to abandon it in cases in which the discharge was yet serous, and I have substituted drainage with plain sterile gauze or with iodoform gauze. A strip of gauze placed in the ear, up against the drum membrane, entirely concealed within the canal, will carry that serum out effectively into another pad of gauze that you can place in the concha. As often as this external pad of gauze becomes saturated with its serous discharge the attendant is directed to remove it and replace it with another little pad of sterile gauze. The physician himself removes the strip of gauze within the canal once a day, and that's all that is necessary to do aside, possibly, from wiping the canal with a bichloride solution, but if the discharge becomes purulent, then it would be better to use a syringe.

The exanthemata produce very severe cases of otitis media, and mastoid operations often fail to follow the normal course which are done for mastoiditis, or disease of the middle ear subsequent to examination. A notable illustration of this came under my observation a year or two ago, when a child that had scarlet fever came to me with a fully developed mastoid trouble, while she was still desquamating from the scarlet fever. The operation was done, and done very thoroughly; the diseased bone was removed, and the curette car-

ried down to the solid, healthy-looking bone in every direction. However, in this case granulation failed to form in the normal way, and for some weeks bare bone remained in the wound, and some of it developed caries, and the wound had to be opened and the area of caries scraped away; then the recovery was normal afterwards. The poison of the scarlet fever and all other infectious diseases is so intense that not always at the time the operation is performed has the diseased process in the bone run its course, and further areas necrose, so that the course of the disease in this condition and the recovery after operation following the attack are often not normal.

Dr. Rinehart (Camden)—I am not able to criticize Dr. Caldwell's paper for the admirable way in which he handled the subject, Otitis Media. The importance of this subject arises from the fact that it is such a common one; one in which the laity needs a little education, to realize the importance of the proper treatment of acute suppurative otitis media until it is safe to dismiss it. I presume that every physician here has had the experience of being called up in the night over the telephone and told about a child having earache. You don't insist upon going out to see that child; you prescribe something until the next morning, and the next morning you will go after breakfast and visit the child and see about that; the mother calls you up and says that the child is getting along all right; that the thing has bursted. Those cases, some of them, do get along all right, but some of those cases are the ones in which the mastoid trouble develops and go on to chronic suppurative otitis media.

In regard to the treatment, would say that I have found adrenal chloride, 1-8,000, instilled into the ear and nose, a very good thing to do in the early part of the earache in children, or anyone else, as far as that is concerned, when there is stoppage of the nose. Often the opening up of the Eustachian tube with a few drops of a weak solution of adrenal chloride will stop the trouble. As I said before, they will have rupture, but the purulent contents of the middle ear is so thick, so tenacious, that drainage is not free, and it is a hard matter to get it out. I, for some reason, have stopped the irrigation process and use cotton wrapped on a toothpick or match, or anything of the kind, and let it extend over the flexure an inch or an inch and a half, and just slip that right in through the drum

head or perforation. And that will act by drainage rapidly. Any intelligent person in the family can apply it, and whenever that cotton becomes soiled, then it can be pulled out and another piece put on the match, and any member of the family can insert that in the ear without doing any harm, and that can be changed as often as it becomes soiled.

In speaking of those cases that grow on chronically, Dr. Caldwell speaks of the Politzer method, which we all recommend as a very efficacious and a very important method of procedure to carry out. I think the addition of via cinnamon, administered three times a day, helps wonderfully to get rid of scar or cicatricial tissue in the opening of the middle ear. I have used that with pleasing results, about two to five grains of via cinnamon about three times a day, in those chronic cases.

Dr. Wood—I don't think I can add anything. I was in a dentist's office quite recently and he had one of our brother patients there, who had an abscess tooth. He was blowing into that iodine vapor. He had a little instrument, and put that iodoform in, and sent that vapor right into the tube. I asked him why he did it. He said the vapor of iodine will stop the suppurative process at the root of the tooth quicker than anything he had ever tried, hence also, it would stop the sup-

purative process in a cavity anywhere quicker than anything he knew of. It struck me then that if I had a case of perforation of the ear drum again I should want to try iodine vapor, because of all powerful, penetrating things, I think iodine vapor is one of them. Therefore, if it does stop the suppurative process, I cannot see why the iodine vapor blown into a suppurated middle ear, or where it had been punctured, or where it has broken or bursted of its own accord, would not be the ideal method of treating those cases, and to prevent the mastoid operation.

Dr. Caldwell—I haven't very much to add. I wish to thank each doctor very much for the discussion. I will say, as you all know, that the burden of responsibility in all these cases is going to rest upon the family doctor—on the general practitioner. I wish to insist today, as I insisted a year ago at the Pine Bluff meeting, that every one of you get a head mirror, and, if you haven't got one, get an ear speculum, and from now on examine every ear of every child that comes to your office. If you are not sure something else is the matter with it, suspect ear trouble. By all means, make yourselves acquainted with the use of a speculum and head mirror. I know a great many physicians do not do it.

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No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

BIRTH REGISTRATION PROPAGANDA.

Washington, D. C., Nov. 10.—At the first meeting of the advisory board recently appointed by Health Commissioner Lederle, of New York City, to prepare recommendations for the improvement of vital statistics in that city, one of the members of which board is Dr. Cressy L. Wilbur, chief statistician for vital statistics of the Bureau of the Census, a recommendation was adopted unanimously

to the effect that the most important improvement which could be made in the vital statistics of New York City consists of the verification of the birth registration of every infant dying under one year of age, in order to detect omissions, and strict enforcement of the law providing a penalty for an omission to record a birth in every case thus brought to light.

New York is one of the few cities in the United States having even an approximately complete registration of births, and this action is likely to result in complete registration, and so bring its birth statistics up to the standard found in other countries.

The Census Bureau is greatly interested in this movement because, as shown in the series of charts prepared for the American Association for Study and Prevention of Infant Mortality, to be held at Baltimore this week, one of the greatest defects of American vital statistics is the entire lack of reliable rates of infant mortality, due to defective birth registration.

SAND-FLY TRANSMISSION OF PELLAGRA.

On behalf of the Pellagra Investigation Committee Dr. Sambon recently visited the Italian provinces of Bergamo, Milan, Brescia, Padova, Rome and Perugia, and reports that in no instance in which he came in contact with the disease did he find evidence that maize was a causal factor. Endemic centers have existed in these provinces for over a hundred years. It does not occur in the towns, but only in certain parts of the rural districts where a sand-fly is found. No actual parasite was discovered, but the geographical distribution and general resemblance of the disease to other protozoal infections pointed strongly to this sand-fly origin. A parallelism is suggested between pellagra and yellow fever, the parasite of which has never yet been discovered, though its insect-borne nature is no longer denied.

Dr. Sambon asserts that he proved to his satisfaction, (1) that the endemic centers of pellagra in Italy have remained the same since the disease was first described; (2) that the season of recurrence of pellagra coincides with the season of the appearance of the full-fledged sand-fly, even to the extent that if the spring is early or late, the sand-fly is

early or late in appearing, and pellagra cases are correspondingly early or late in their appearance; (3) that in centers of pellagra infection whole families are attacked at times simultaneously; (4) that in nonpellagrous districts the disease never spreads to others with the advent of a pellagrin from a pellagrous district; (5) that in the case of a family which has moved from a pellagrous to a nonpellagrous district, the children born in the former are pellagrins, while the children born subsequent to removal to a nonpellagrous district do not develop the disease; (6) that the disease is not hereditary, although infants a few months old may become infected, especially if taken to the fields in pellagrous districts, where their mothers work during the season when sand-flies are in evidence; (7) that pellagra is not contagious, but is transmitted to each individual by an infected sand-fly.

The evidence on which Sambon supports his views is strong, but more will be required to satisfy the profession that this covers the whole case. For example, it is necessary to know whether or not the species of sand-fly which Sambon considered the conveyor of the infection, or one closely enough allied to it to be similarly credited with carrying the disease, exists in this country; and if so, whether or not the occurrence of pellagra here corresponds with the distribution of this sand-fly.—*Journal A. M. A.*

PUBLIC PROVISION FOR CONSUMPTIVES DOUBLED.

Sixteen state sanatoria, twenty-eight county hospitals and twenty-one municipal hospitals for tuberculosis have been erected and provided for since January 1, 1909, says a bulletin of the National Association for the Study and Prevention of Tuberculosis. Within the last two years the number of State institutions for tuberculosis has doubled, and the number of county and municipal institutions has increased from about thirty to eighty. The expenditure of public money for the treatment of tuberculosis also has more than doubled. Not less than \$3,000,000.00 of state money was appropriated for tuberculosis institutions in 1909, when forty-three legislatures met, and over \$600,000.00 in 1910, when only eleven legislatures were in session. The appropriations of counties

and cities for tuberculosis hospitals and sanatoria in the last two years will aggregate fully \$2,500,000.00, bringing the total of official appropriations for tuberculosis hospitals up to over \$6,000,000.00 in the past two years. In spite, however, of this good showing, the National Association for the Study and Prevention of Tuberculosis states that not one-tenth of the public provision for tuberculosis that is needed has been made. More than 250,000 tuberculosis patients are constantly without proper institutional treatment.—*N. Y. Medical Journal.*

THE AMERICAN SOCIETY OF MEDICAL SOCIOLOGY.

Recognizing the intimate relationship between disease and the social-economic system under which we live, recognizing that many diseases are caused directly by our social and economic conditions; recognizing that the efficiency or inefficiency of our treatment often depends upon the economic condition of the patient, recognizing that there are many problems deeply and vitally affecting the welfare of mankind which are left practically untouched by any existing medical society, the American Society of Medical Sociology has been organized for the purpose of studying radically all questions of a socio-medical nature, and invites your coöperation.

Some of the questions which are under investigation by the members at the present time are:

The need of a Federal Department of Health.

Tuberculosis as an economic disease.

Is there any demonstrable relationship between the strain of our modern life and the increase of insanity?

Is cancer on the increase, and if so, what are the probable etiologic factors?

What are the best, i. e., the most humane and most effective methods of dealing with prostitution?

The best methods of preventing venereal infection?

Is complete sexual abstinence (a) likely to impair the general health (b) likely to result in impotence?

The relative influence of heredity and environment on the physical, mental and moral characteristics of the offspring.

The question of marriage and divorce.

Is the regulation of conception morally jus-

tifiable, and if so, what are the best methods?

Abortion in its medical and ethical aspects.

Alcohol (a) as a beverage, (b) as a medicine. Its physiologic, medicinal, social and economic effects.

Infant mortality. Its principal causes and prevention.

Occupational or trade diseases.

Food adulterations and their influence on health.

The causes of quackery, Christian science and other cults, and the influence of the irregular cults of medicine on public health.

The results of these investigations will be disseminated by means of meetings, lectures, reports, pamphlets, etc.

SURGEONS ORGANIZE CONGRESS.

The Clinical Congress of the Surgeons of North America was organized at the Hotel La Salle, Chicago, November 17, the initial membership being made up of the surgeons in attendance at the series of clinics. It is proposed to continue these clinical reunions year by year in one of the large cities of the country. Membership is made up of surgeons who register at the regular sessions of the congress. The following officers were elected: President, Dr. Albert J. Oschner, Chicago; vice president, Dr. John G. Clark, Philadelphia; editor and general secretary, Dr. Franklin H. Martin, Chicago; treasurer, Dr. Allen B. Kanavel, Chicago, and general manager, Mr. A. D. Ballou, Chicago.—*Journal A. M. A.*

HOOKWORM SLIDES AVAILABLE.

In a circular letter from the Hygienic Laboratory of the United States Public Health and Marine Hospital Service at Washington, Dr. C. W. Stiles announces that the demand for lantern slides to illustrate the anatomy and life history of the hookworm and the methods of preventing hookworm disease has increased to such an extent as to make it necessary to prepare a number of extra sets of slides. These will be loaned to medical societies, colleges, teachers' associations, women's clubs and other organizations that may desire to use them on condition that all requests for their use be sent through the secretary of the State Board of Health, and that the slides be returned, express prepaid,

immediately following their use. Preference will be shown to societies and institutions located in hookworm-infected States.—*Journal A. M. A.*

MEETING OF AMERICAN SOCIETY FOR THE STUDY AND PREVENTION OF INFANT MORTALITY.

The American Association for the Study and Prevention of Infant Mortality held its first annual meeting in Baltimore on November 9, 10 and 11, under the presidency of Dr. J. H. Mason Knox, Jr., of Baltimore. The meeting was well attended by physicians, health officers and social workers from all parts of the United States, and delegates were present from Canada. An excellent program of papers was presented, and the discussions brought out many valuable points relating to the prevention of infant mortality. One of the chief features of the convention was an exhibition in which everything relating to the welfare of the baby was shown. This exhibit remained open until November 16. Dr. Charles Henderson, of the University of Chicago, was elected president of the association, and Chicago was selected as the place for next year's meeting. The other officers elected were: President-elect for 1912, Dr. Cressy L. Wilbur, chief statistician, Bureau of Census; vice presidents, Harold McCormick, of Chicago; Dr. Henry L. Coit, of Newark, N. J.; secretary, Dr. F. S. Churchill, of Chicago; treasurer, Austin McLanahan, of Baltimore; Executive Committee, Professor Henderson, Dr. Churchill, Dr. J. H. Mason Knox, Jr., of Baltimore; Dr. John S. Fulton, of Baltimore; Dr. Mary Sherwood, of Baltimore; Dr. Joseph S. Neff, of Philadelphia, and Dr. Helen C. Putnam, of Providence. The permanent headquarters of the association will remain in Baltimore, where they were established a year ago, and Miss Gertrude B. Knipp was reappointed executive secretary.—*N. Y. Medical Journal.*

SPECIAL SOUTHERN NUMBER.

The January issue of the *American Journal of Surgery* will be composed entirely of original contributions from the pens of well-known Southern surgeons. Among those to appear we would mention: "Pyuria," by Howard A. Kelly, M. D., Baltimore, Md.; "Transfusion of the Blood, Its Indication and

Technic," by J. Shelton Horsley, M. D., Richmond, Va.; "Tumors of the Lower Jaw, the Form Most Frequently Found in the Negro," by Willis F. Westmoreland, M. D., Atlanta, Ga.; "Pylorospasm," by Stuart McGuire, M. D., Richmond, Va.; "Prevention of Immediate Postoperative Pain by Quinin Injections," by Drs. V. & V. W. Pleth, Seguin, Texas; "The Importance of Educating the Public in Regard to Cancer," by Southgate Leigh, M. D., Norfolk, Va.; "Aerogenes Infections," by George R. White, M. D., Richmond, Va.; "Stricture of the Rectum, Complicating Fistula," by C. S. Venable, M. D., San Antonio, Texas; "Gastric Symptoms from a Surgical Viewpoint," by Louis Frank, M. D., Louisville, Ky. Dr. Edgar D. Capps, of Fort Worth, Texas, and H. Berlin, M. D., of Chattanooga, Tenn., will also contribute original articles to this number.

AMERICAN PUBLIC HEALTH ASSOCIATION TO MEET IN HAVANA.

The American Public Health Association will hold its 1911 meeting in Havana, Cuba, from December 4 to 9. The prospect of having the association again in Havana has aroused the warmest interest among the physicians there, the secretary of sanitation, Dr. Varona, being particularly interested. The Academy of Medicine has offered its building for the general section meetings. The Hotel Sevilla will be the headquarters of the association. A few years ago a meeting in Havana would probably have discussed yellow fever. The changed situation in Cuba with respect to that disease is shown by the fact that yellow fever has been so completely extinguished on the island that the local physicians desire rather that tuberculosis be given the most prominent place. The question of the milk supply will also be considered.

It is hoped at this meeting that the recently organized Sociological Section and the Section on Sanitary Engineering, which was tentatively authorized by the Milwaukee meeting, may be put upon substantial foundations.

About 5:00 a. m., November 3, the offices of Dr. A. J. Vance and Dr. J. H. Fowler, of Harrison, which adjoined, were totally destroyed by fire, neither saving but little of the contents. Dr. Vance lost about \$500.00; Dr. Fowler about \$250.00. No insurance.

County Societies

MISSISSIPPI COUNTY.—The following is the program rendered at the meeting of the Mississippi County Medical Society held at Blytheville Tuesday, November 8, 1910, at 1:00 o'clock p. m.:

"The Condition of Medicine Prior to the Time of Hippocrates, 460 B. C.; the Hippocratic Oath; Medicine From Hippocrates to Galen and On Up to Tuesday, November 8, 1910"—Dr. J. F. Sanders, Blytheville.

"The Present Status of the Profession and the Indication of Future Advancement; the Code of Ethics; the Duties of Physicians to Each Other and to the Profession at Large; Duties of the Profession to the Public, and Vice Versa, etc."—Dr. Thos. G. Brewer, Osceola.

Report of cases of unprofessional ethics, if any.

Fee Bill—"Shall We Raise Our Fees in Keeping With the Present High Cost of Living?"

Physicians' Protective Association. "In union there is strength." Now, doctor, shall we organize and thereby eliminate the dead-beat, or do you prefer to work for nothing the remainder of your life, just to "play policy" and "get the business?"

General discussion.

This is a copy of a circular letter sent members prior to the meeting of November 8:

"Doctor—We have not had a meeting since May. Something is wrong; someone seems to have their feelings hurt. Is it you? If so, read every word of this and see if it fits, and if not, it was intended for the other fellow. If you have a grievance against any one of your fellow-practitioners for something they have or have not done or said, and wish to discuss the matter with them in the presence of the society, be present next Tuesday and you will have an opportunity to publicly 'show him or them up.' The statement has been made (and we do not doubt it) that there are physicians in the county who haven't a grain of sense; who really have no diploma; who are dope fiends; and others who came from the wrong country (but the sheriff was not after them). Therefore, if this be the case, let's get together Tuesday, locate these unfortunates and try to polish them up; lend them a portion of our burning knowledge that otherwise is going to waste, and by so doing we may all some time be big

walking encyclopedias of medicine and surgery. On the other hand, if you are not 'sour grapes,' and really love everybody (especially your doctor friends), if you do not speak evil of them (to their back); if you are not 'disgruntled,' you are undoubtedly a very happy man, and should meet with us and tell the remainder of us how to feel happy—how to get that ugly 'grouch' forever erased from our physiognomies, and how to inculcate, by precept and example, the real meaning of the 'golden rule.'

"It is mean, cowardly and two-faced for us to speak disrespectfully of another to his back, especially statements that cannot be authenticated. It is said that this kind of foul play is going on in several communities, and the sooner it is 'corked,' the better. It would be a slam on the whole profession for some of us to be forced to give a lie-bill just because we allowed our hatred and jealousy to get away with us. If we are going to live a hot-headed life, let's acquire the habit of placing our top-piece in the ice box at night. If we are going to have a society, let's have it right or not at all. If we expect to do anything, it is high time. If we are to continue to sling mud at each other and trample down the code of ethics, let's get together and have a common understanding to that effect, that all may get into the band wagon and ride. If anyone has done you wrong, don't swell up at the whole world; meet us at Blytheville, lay the whole matter before the society, and allow it to be settled on the inside, and not on the outside, or on the street with the laity, who know nor care nothing about our troubles, and who possibly make 'laughing stock' of us for having such an ugly disposition. Lawyers are not that little; why should doctors be?

"There is nothing to any man who refuses to acknowledge his own faults, and who at the same time refuses to pardon the mistakes of others. If we show a friendly disposition toward others, we are usually treated in the same friendly way. If we are always on the warpath, looking for trouble and fire to eat, we can usually find it.

"If you are a young man you should want to start out in the right way. If you are a middle-aged man and started right, you are all right now. If you are an old man, you ought to be friendly to the young. If you throw a stone in his way it will rebound against you. If you remark on the score of his youth, 'He is a good boy, but he has got

a whole lot to learn,' it is better to have a future than a past; however, we should all hope to end our career in an honorable way, and should not wait too late in life to begin practicing what we preach.

"If you are not on good terms with your coworkers and the society, you will at least try to get right if there is anything to you. If you never expect to 'bury the hatchet,' what kind of a man are you? How do you expect to ever get through this world of friction if you are too tyrannical to make friends with the other fellow? How do you expect to be forgiven for your own transgressions if you can't bury your little hammer? Are you a church member? Do you attend, or do you pay your dues and stay at home, like some of our members do?

"Doctor, let's not cultivate our prejudice, or our jealous disposition any longer, for it is only a compliment that we unthoughtedly pay to our superiors. We can't be good physicians without being good, honest men. From this day on let's see to it that Satan gets far behind us, where he properly belongs, and make up our minds to live by, work by and die by our M. D. friends. Meet us Tuesday with a smile on your face a yard long, determined to do your best for the betterment of the society, and you will be a happier man. Let's be men, and manly men, at that.

"With kindest personal regards, I beg to remain, as ever,

"Fraternally yours,

"O. HOWTON,

"Secretary."

Personals.

Mr. Moses T. Clegg has resigned from the Bureau of Science to accept the assistant directorship of the leper colony at Honolulu, for which place he has sailed. For several years Mr. Clegg has been interested in leprosy and has recently succeeded in cultivating the leprosy bacillus on artificial media.—Manila letter, A. M. A.

Mr. Clegg is the son of Dr. Clegg, Siloam Springs, ex-president State Medical Society.

Drs. Kennerly, of Batesville, Ruth, of Batavia, Roe, of Calico Rock, and Woods, of Evening Shade, were in attendance at the recent meeting of the Masonic Grand Lodge held in this city.

Drs. Lenow, Runyan and Sheppard attended the meetings of the Southern Medical Association and the Southern Medical Colleges at Nashville.

Dr. C. H. Cargile and wife, of Bentonville, were both injured in a runaway accident the first part of the month.

Dr. J. W. Morris, Denton, spent several days in the city during the Masonic Grand Lodge meeting.

Dr. C. R. Shinault has spent several days this month in Mississippi, his sister having been very ill.

Dr. H. H. Niehuss, of Wesson, is preparing to remove to this city about the first of the year.

EXAMINATION FOR ANATOMIST.

The United States Civil Service Commission announces an examination on January 18, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of anatomist (male), at \$1,600.00 per annum, in the army medical museum, office of the surgeon general, and vacancies requiring similar qualifications as they may occur, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer or promotion.

The examination will consist of the subjects mentioned below, weighted as indicated: Pathologic histology, 25; gross pathology (including preparation of museum specimens), 25; bacteriology (including care and use of microscope), 25; photomicrography, 10; training and experience, 15; total, 100.

Age limit, 20 years or over on the date of the examination. Men only will be admitted to this examination.

Book Reviews.

Hookworm Disease.—Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By George Dock, A. M., M. D., Professor of the Theory and Practice of Medicine, Medical Department

Tulane University of Louisiana, New Orleans, and Charles C. Bass, M. D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, \$2.50. C. V. Mosby Company, St. Louis, Publishers.

This work, coming at this time, should meet with much favor at the hands of the physicians of the entire country, and especially those of the South. It is written by a man who has had a large field to draw from, and in his clear and concise manner has covered the ground thoroughly. If interested in hookworm disease it is the best work on the subject that we know of.

Publisher's Notice.

W. B. Saunders Company now have going through their presses a three-volume work on Practical Treatment, written by international authorities and edited by those able clinicians, Dr. John H. Musser and Dr. A. O. J. Kelly, both of the University of Pennsylvania.

In looking over the list of contributors we can come to but one conclusion, namely, that this work will undoubtedly take rank as the very best on treatment extant. The names of the authors carry with them the positive assurance of thoroughness. Indeed, each chapter is a complete monograph, presenting the most recent therapeutic measures in a really practical way.

As the general practitioner is required to know certain therapeutic measures more or less of a surgical nature, leading surgeons have been selected to present such subjects. This is an important feature, and, to our knowledge, not included in any similar work.

In every case the men have been most aptly chosen for their respective tasks, and under the wise editorship of Drs. Musser and Kelly there has been produced a work on treatment that will remain for many years the last word—a source of practical information, easily obtained and readily digested.

The work will sell for \$6.00 per volume, in sets only.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
 Secretary—George H. Simmons, 535 Dearborn Ave., Chicago.
 Treasurer—Frank Billings, Chicago.
 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
 Judicial Council—William C. Woodward, Washington, D. C., chairman; Lawrence M. Shaw, Osceola, Neb.; Louis A. Hahn, Guthrie, Okla.; Charles S. Huffman, Columbus, Kan.; George K. Angle, Silver City, N. M.
 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912. Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kebler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
 Council on Health and Public Instruction—H. M. Bracken, Minneapolis; W. B. Cannon, Boston; H. B. Favill, Chicago; J. N. McCormack, Bowling Green, Ky.; W. C. Woodward, Washington, D. C.
 Director of the Scientific Exhibit—Frank B. Wynn, 311 Newton-Claypool Bldg., Indianapolis.

OFFICERS OF SECTIONS

Practice of Medicine—Chairman, Allen L. Jones, Buffalo; vice chairman, Charles L. Greene, St. Paul; secretary, Wilder Tileston, 308 Crown St., New Haven.
 Obstetrics and Diseases of Women—Chairman, Horace G. Wetherill, Denver; vice chairman, Fred J. Taussig, St. Louis; secretary, C. Jeff Mille, 404 Medical Bldg., New Orleans.
 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shambaugh, 100 State St., Chicago.
 Nervous and Mental Diseases—Chairman, W. A. Jones, Minneapolis; vice chairman, Herman H. Hoppe, Cincinnati; secretary, E. E. Southard, 37 Trowbridge St., Cambridge, Mass.
 Preventive Medicine and Public Health—Chairman, W. A. Evans, Chicago; vice chairman, Marshall Langton Price, Baltimore; secretary, C. Hampson Jones, 2529 St. Paul St., Baltimore.
 Stomatology—Chairman, S. L. McNurdy, Pittsburg, Pa.; vice chairman, Virgil Loeb, St. Louis; secretary, Eugene S. Talbot, 103 State St., Chicago.
 Diseases of Children—Chairman, S. M. Hamill, Philadelphia; vice chairman, Thomas D. Parke, Birmingham, Ala.; secretary, L. T. Royster, Norfolk, Va.
 Dermatology—Chairman, Charles J. White, Boston; vice chairman, Martin F. Engman, St. Louis; secretary, H. R. Varney, 604 Washington Arcade, Detroit.
 Pharmacology and Therapeutics—Chairman, Lawrence Litchfield, Pittsburg, Pa.; vice chairman, George B. Wallace, New York; secretary, M. I. Wilbert, Twenty-fifth and E Sts., N. W., Washington, D. C.
 Pathology and Physiology—Chairman, Yandell Henderson, New Haven, Conn.; secretary, Leo Loeb, 4109 Pine St., Philadelphia.
 Genito-Urinary Diseases—Chairman, W. T. Belfield, Chicago; vice chairman, James Pedersen, New York; secretary, Hugh H. Young, Professional Bldg., Baltimore.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frostville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothern, Walcott.
 Treasurer—J. S. Wood, Hot Springs.
 Secretary—Morgan Smith, Little Rock.
 Delegate to American Medical Association—J. F. Clegg, Siloam Springs.
 Alternate—R. H. Barry, Hot Springs.

OFFICERS OF SECTIONS.

Medicine—T. F. Kitrell, Texarkana, chairman; A. S. Buchanan, Prescott, secretary.
 Surgery—Henry Dickson, Paragould, chairman; Will Owen, Paragould, secretary.
 Obstetrics and Gynecology—S. J. Hesterly, Prescott, chairman; W. C. Dunaway, Little Rock, secretary.
 Pathology—M. D. Ogden, Little Rock, chairman; William H. Deaderick, Helena, secretary.
 State of Medicine and Public Hygiene—St. Clond Cooper, Fort Smith, chairman; Anderson Watkins, Little Rock, secretary.
 Dermatology and Syphilology—Samuel Steer, Hot Springs, chairman; M. F. Monnt, Hot Springs, secretary.

COMMITTEES 1910-1911.

Committee on State Legislation and Public Policy—F. T. Murphy, chairman, Brinkley; M. L. Norwood, Locksburg; J. G. Eberle, Fort Smith.
 Committee on Scientific Work—B. L. Harrison, Little Rock, chairman; H. H. Nelhuus, Wesson.
 Tuberculosis Committee—F. B. Young, Springdale, chairman; H. T. Thibault, Scott; A. J. Vance, Harrison.

COUNCILOR DISTRICTS AND COUNCILORS. 1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Gleburne, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmot. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Nelhuus, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, A. H. McKenzie, Dardanelle. Term of office expires 1912.
 Ninth Councilor District—Baxter, Boone, Carroll, Marion, Newton, Searcy, Stone and Van Buren counties. Councilor, C. T. Canady, Marshall. Term of office expires 1911.
 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

THE JOURNAL

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Vol. VII.

LITTLE ROCK, ARKANSAS, DECEMBER, 1910

No. 7

Original Articles.

UTERINE FIBROMYOMA; WIDE RANGE OF COMPLICATION—EXHIBITION OF SOME INTERESTING SPECIMENS.*

J. W. Smith, M. D., Hot Springs.

In this paper I do not expect nor intend to cover the vast field of fibromyoma, nor the entire range of complication. Whole volumes have been written upon the subject. Furthermore, my allotted time to read a paper before this august body, the Arkansas State Medical Society, would not permit of a very elaborate survey of so vast and important a subject. Therefore, I have not attempted to write or prepare a formal or strictly connected paper, but have endeavored to garner a small portion or a few points from the vast field for your consideration, but more especially to speak of and point out some of the interesting cases and complications I have met with in my practice.

I shall not describe nor speak of fibroid in a general way, except to define uterine fibromyoma. I shall not dwell upon diagnosis, pathological conditions or changes, except by way of reference and effect to contiguous organs and tissue.

I wish to state that all fibromyoma, with all their ill effects and consequences, complication of contiguous organs, viscera and tissue, are directly influenced, actually supplied, fed and nourished by blood. Without blood supply they could not grow, nor even exist. Therefore, just what other causes that start or produce such neoplasms or abnormal growths we do not know. But we do know that blood is the one important factor in their

development, nourishment and growth. Therefore, at the very beginning of this paper I shall endeavor to describe the circulation with anastomoses which must necessarily supply uterine fibroids with other important anatomical reference or description as brought to bear upon the subject by complication.

As descriptions of the normal anatomy of the uterus and all of the other pelvic organs are to be found in standard anatomical textbooks, I simply wish here to emphasize certain points which are of importance in the study of fibromyoma and operative work.

Arteries supplying the uterus and the broad ligaments are the uterine, the internal and external spermatic and the vaginal; any of these vessels may become of great importance, either because of the general increase in blood supply accompanying the tumor growth or in consequence of the interference or shutting off of other supply by pressure or otherwise.

The ovarian artery (internal spermatic) leaves the aorta midway between the renal and inferior mesenteric arteries. It crosses the ureter obliquely and lies upon the psoas muscle as it passes downward and outward. At the brim of the true pelvis it turns inward. At first straight, it becomes tortuous and ends at the outer border of the ovary, where it anastomoses with the ovarian and tubal branches of the uterine artery. Some branches are given off at the brim of the pelvis, which ramify beneath the peritoneum. A branch is given off near the bifurcation of the common iliac, which breaks up into numerous branches anastomosing with the subperitoneal network. The branch to the Fallopian tube also gives many branches to this plexus (pampiniform), which receives, also, branches from the uterine artery.

This anastomosis is of special importance in the case of fibroids which develop beneath the broad ligament. Ligation of the uterine artery above or ligation of the ovarian (sperm-

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atic) alone is of very little use in such cases, since this network also communicates with the epigastric or the circumflex iliac vessels through the artery of the round ligament and with the vaginal arteries.

The ovarian (internal spermatic) artery, accompanied by veins, nerves and smooth muscular fibers, raises the peritoneum from the pelvic brim to the edge of the tube, and forms a peritoneal ridge, the infundibular fold. At this point the vessel decreases in size; it becomes more convoluted, and its convolutions rest upon or are surrounded by veins much larger than itself. The veins are not convoluted; inferiorly, the peritoneal layers come together, leaving a space clear from visible vessels. This space is of great importance in the ligature of these vessels or in the removal of the appendages. At this point, at the pelvic brim, the vessel gives off sometimes, besides the peritoneal branches mentioned above, a comparatively large branch, which, passing beneath the cecum or sigmoid flexure, anastomoses with the corresponding vessels of these viscera. The artery ends by giving off, first, a branch to the Fallopian tube, second an ovarian branch, third a branch anastomosing with the uterine artery. The first passes up along the fimbriated extremity and under the border of the Fallopian tube for a short distance. Below the posterior leaflet of the mesosalpinx it anastomoses, in the region of the ampulla, with the tubal branch of the uterine artery. Before doing so it supplies one or two small branches to the outer pole of the ovary, to the fimbriæ, the ampulla and to the subperitoneal network. After giving off these it becomes very small. The second, the ovarian branch, is directed along the attached border of the ovary, giving off several very convoluted branches, which are distributed to the outer portion of the ovary, the furthest anastomosing with an ovarian group coming from the uterine artery. The third and last branch is situated beneath the others, between the layers of the mesosalpinx, and passing on, continuing in the direction of the ovarian artery, anastomosing with the corresponding branch from the uterine artery. The point of union cannot be certainly determined, but the spermatic artery diminishes markedly after the origin of the tubal and ovarian branches. It remains about the same size for a certain distance, then enlarges again, until near the uterus it becomes nearly double the size of the original spermatic artery.

There can be little or no doubt but that it

has ceased to be a branch of the ovarian long before it reaches this point. In some exceptional cases, however, the internal spermatic artery does appear to supply blood to the fundus uteri by this branch, but this is not by any means the usual condition. Still, it occurs with sufficient frequency to explain certain cases in which ligature of the uterine artery has had but little effect on a growth situated in the fundus.

A ligature around the vessels in the infundibular fold will, therefore, be more than likely to produce an overfullness of blood in the parts distal to it than a diminution of blood, but it will distinctly interfere with the circulation. Ligature of tube with vessels at cornu of uterus will tie the anastomatic branch of the uterine artery, or in those cases in which the ovarian artery supplies the fundus, ligature of latter artery just before reaching the uterus will cause more blood to be thrown into the subperitoneal network of the broad ligament, a point of much importance.

The internal iliac artery extends from the bifurcation of the common iliac artery opposite the lumbo-sacral articulation towards the sacrosacral foramen, near which it is divided into anterior and posterior divisions. From the anterior division passes downward and inward the superior vesical, the uterine, the hypogastric, the vaginal and middle vesical arteries, all on a level with the upper edge of the obturator internus muscle. Lower down comes off a vaginal and a urethral branch. The main vessel passes on as the pubic artery (pudic in the male).

The uterine artery comes off behind the ureter, which crosses it from behind forward about the level of the internal os, and variously from one-half to an inch away from the uterine border. At this point the artery gives off two or three branches running in the same direction as itself, but spreading out like a fan downward and inward, supplying the cervix, the upper part of the vagina and the bladder. It also gives a branch to the ureter. One of these branches anastomoses by the azygos vagina with the vaginal artery. It describes a curve with its convexity downward. The artery passes upward nearly to the angle formed by the lateral border of the uterus with the Fallopian tube, where it divides into three branches, one of which supplies the fundus uteri and anastomoses with that of the opposite side, another of which passes into the ovary by its hilum and anastomoses directly with the internal spermatic, and the other, ly-

ing in the mesosaplinx, runs outward parallel with the Fallopian tube and supplies it, uniting with the internal spermatic artery. This branch also gives a small branch to the round ligament which anastomoses with the deep epigastric through the external spermatic artery. There seems to be a diversity of opinion with anatomists and gynecologists with reference to the blood supply to the uterus, uterine and ovarian or internal spermatic arteries. The preponderance of opinion is that the uterine artery alone supplies the entire uterus and that the spermatic artery furnishes no part of the uterine blood supply.

But that there are anomalies in formation of uterine and ovarian vessels, and consequent blood supply, there is no doubt, in which the spermatic artery supplies the fundus and greater part of the uterus, as pointed out in the above description, circulation and distribution of the spermatic artery and its branches. The branches given off by the uterine artery before the main trunk bends upward by the side of the uterus are important for two surgical reasons: First, because they may easily be mistaken for the trunk itself in the operation for vaginal ligature of the uterine artery, the main vessels thus escaping, and, secondly, because from their anatomical disposition the current of blood in them is more directly sent to the tissues which they supply than is that in the vessels coming off at right angles from the main trunk and supplying the body of the uterus. Neoplasms situated in the cervix are, therefore, likely to have a more rapid evolution than those in the uterus itself.

In the abdominal ligature of the uterine artery, with a view to atrophy of such growths, it is also evident that it is important to tie the vessel near its origin or to tie all these vessels so as to include these branches, else the effect of such ligation will be the opposite of that desired. The flow of blood into the main vessel being stopped, a greater supply may be diverted into the vessels actually supplying the growth.

The main trunk passing upward by the side of the uterus gives off branches toward it. There are eight or ten short transverse branches dividing quickly into two, anterior and posterior, which penetrate the uterine tissue. They pass in a spiral or tortuous fashion and anastomose freely. Quain says "the arteries of the uterus are remarkable for their frequent anastomoses, and also for their singularly tortuous course."

After passing a short distance into the thickness of the uterine wall, they divide into branches which penetrate the muscular tissue of the mucous membrane, supplying it with capillaries, and then pass toward the inner portion of the membrane and open into a network of large capillaries which pervade the tissue in that situation, and are especially developed near the surface and around the glands.

In the cervix, however, and especially in the vaginal portion, the arteries which in this situation possess walls of considerable thickness, after entering the mucous membrane, divide into a number of small branches, which pass directly toward the surface and open into the capillary network, there present, from which loops pass into the papilla.

Some authors divide the anastomosis into transverse, vertical and antero-posterior, but the important point is that one injection will fill them all, unless they are diseased, not only on one side, but on both sides, as the upper branches unite with the spermatic arteries and the lower with the vaginal.

Ligature of the uterine arteries does not necessarily produce necrosis of the uterus, but it must be remembered that it very greatly lowers, for some time at least, the pressure of the blood supply, since time is required for the compensatory enlargement of these subsidiary vessels. If, then, a neoplasm is present in this tissue, the proper nutrition of which is already very low, as is the case in fibromyomata, such lowering may depress its blood supply to the point of extinction, and necrobiosis or sloughing result. Apart from these, the uterine artery gives off near to its origin several branches, which ramify beneath the peritoneal branches, as before noted, to the ureter, which are long and sinuous, and lead to the bladder.

The uterine minute arteries and capillaries are convoluted, a point which explains the whorled appearance of the fibers developed upon them in fibromyoma. All the vessels are evidently designed in this way in order to allow for the rapid alterations in size during and after pregnancy.

VAGINAL ARTERIES.—These differ very much in various subjects. In some cases the uterine artery gives off a branch or branches in the middle of its parieto-uterine curve. These are cervico-vaginal arteries. They pass transversely, divide and penetrate the vaginal wall in immediate contact with the mucosa. Sometimes a branch is given off

near the uterus, follows a similar course, but traverses the vaginal wall with the mucosa lower down. The lower half or two-thirds of the anterior wall of the vagina is often supplied by branches from the hypogastric artery. This artery gives off, higher up, near the pelvic wall, two groups, one anterior and one posterior.

The vessels of the anterior group cross the ureter and take the same course as those derived from the uterine artery. They form an anastomosing network beneath the vaginal mucosa. An anterior azygos artery comes, also, from this source. A posterior group arising at the same point passes to the side of the vagina and supplies both walls, anterior and posterior.

The artery of the round ligament (external spermatic) unites the external iliac artery with the uterine artery, and through this with the internal iliac, arising as it does from the epigastric or circumflex iliac. Quain speaks of it as an unimportant branch given off from the ovarian artery.

It gives off three branches. The first branch ramifies under the peritoneum, the second branch unites the circumflex iliac with the epigastric, and the third branch, the largest and most anterior, penetrates the round ligament and courses within it toward the uterus. Some branches of this artery, before entering the ligament, also supply the peritoneum. When the round ligament is split longitudinally the artery is seen in its center. The vessel is very convoluted, and is about the same size at each end. It is accompanied by a vein, ending by anastomosis with the salpingo-ovarian branch of the uterine artery, or with the anterior tubal branch of the same artery. It thus forms a direct communication between the external iliac and the uterine arteries. The union is by a large opening between one or two branches.

The subperitoneal branches given off, at first very fine and numerous, inosculate with similar ones given off from the uterine.

The veins accompanying the ovarian arteries are much larger than the artery. The veins which return the blood from the uterus and which pass by the side of the ovarian artery carry as much or more blood than the uterine vein. These veins coalesce into the ovarian veins, which are very long, and empty themselves, the left into the renal vein, the right high up into the vena-cava. They may thus easily become varicose.

The veins follow the arteries very closely.

By the side of the uterus there is one group of veins, situated in front, one behind and one outside the uterine artery. These empty above into the ovarian veins and below by the uterine vein, which commences near the level of the internal os, and receives also the blood from the anterior vaginal group. The trunk so formed lies in front of the uterine arterial trunk. It passes in front of the ureter, and, curving around it, becomes posterior to it. Just before it reaches this point it receives a second venous group, beginning in the wall of the bladder and anastomosing with the obturator veins. These also receive the posterior vaginal veins. Some authors think the veins in many cases are much more formidable from a surgical point of view than the arteries.

Lymphatics originate in three coats of the uterine wall, but more especially in the muscularis, where they are most abundant. They terminate in collecting trunks, which are formed into three groups. The superior group drain the body of the uterus, follow the course of the ovarian vessels, and terminate in the lumbar glands of the corresponding side. The middle group accompany the vessels of the round ligament and terminate either in the external iliac glands or enter the inguinal canal and terminate in the inguinal glands. The inferior group drain the cervix and vagina and terminate in the internal iliac and sacral glands. Thus it will be observed that the lymphatics of the uterus follow the course of the vessels, and, by their anastomosis, form a complete lymphatic ring about the body and cervix.

The importance of the lymphatics in spreading infection and in the extension of uterine cancer is obvious. Nerves of the uterus are derived from the third and fourth sacral and sympathetic branches from the hypogastric and the renal plexuses. It will thus be seen that the innervation of the uterus is intimately connected with that of the abdominal viscera, the kidneys and the neighboring pelvic organs, and explains the various reflexes which occur in conjunction with uterine affections in the kidneys, stomach and intestines. The cervix is poorly supplied with nerves.

The bladder is situated within the pelvic cavity, behind the symphysis pubis. When filled it rises to the height of the pubis; when distended it ascends out of the pelvis, rests directly against the abdominal wall, and may rise to the umbilicus. The normal capacity of the bladder is modified by disease or by

mechanical interference, such as tumor growth or encroachment. When full it may appear to start from the internal abdominal wall. This condition becomes no longer temporary, but permanent, and still more exaggerated during the development of tumors in the anterior uterine wall or in the broad ligaments, so that the abdominal wall may require opening high up, near the umbilicus. In some cases, simply in order to reach the abdominal cavity above the bladder or careful dissection to avoid wounding of the bladder, after removal of the tumor or mass it is interesting to find, when closing the abdominal incision, that the bladder has already assumed its normal position. The bladder may be forced upward in the loose cellular tissue between the peritoneum and the muscular abdominal wall, or, lying beneath the omentum, it may be dragged up with the enlarging uterus and lie, held by adhesions, over the lower segment of its anterior surface. Its upper limits should be found. There is a transverse dip or sulcus across the front of the mass or tumor, at the junction of the upper border of the bladder with the uterus. If sulcus and upper border of bladder cannot be determined, sterile assistant or nurse should introduce sound, stone-searcher or metal catheter, carefully manipulated, to uppermost fold of bladder. The upper part of the uterus is smooth, may be nodular and much enlarged, numerous tortuous veins (and arteries) run upward, almost vertically, over the vesical surface to end abruptly at the sulcus referred to. It is important to notice this line or sulcus, as a transverse incision must be made through the peritoneum across the uterine front in abdominal hysterectomy, and must be at least half an inch above this sulcus, and thus avoid the risk of opening the bladder, with the certainty of great and unnecessary infection, with much troublesome bleeding and closure of pelvic peritoneum and abdominal incision rendered impossible.

I saw just such an unfortunate accident once—amputation of dome, or about one-third of upper portion of a much-distended bladder, carried up by adhesions to fibromyoma. Suprapubic abdominal hysterectomy was being performed by a surgeon who had considerable reputation as an abdominal operator. I am quite sure he had performed a thousand or more laparotomies. The patient died some two or three days later, as a result of the accident. The relations of the

bladder to the pelvic neighboring organs and structure are very important. The bladder occupies a triangular space behind the pubis filled with loose cellular tissues, Retzius' space, or the prevesical space. The loose cellular tissue is continuous with the subperitoneal fascia of the neighboring regions. Inflammations of the prevesical-cellular tissue may invade the subperitoneal tissue of the pelvis and abdomen, and unlike subperitoneal phlegmon of the abdomen may burrow into the prevesical space.

The bladder wall is composed of four coats, serous, muscular, submucous and mucous. The bladder possesses a rich vascular supply. Arteries are superior, middle and inferior vesical, all branches of the internal iliac artery, also branches from uterine and vaginal arteries. Veins accompany the arteries, the larger branches being directed towards the base of the bladder, where they form a complicated plexus, which anastomoses with the uterine and vaginal branches. The vascular area centers at the base.

The largest vessels are situated on either side of the median line.

Nerves are derived from the pelvic plexus of the sympathetic, also innervated by two systems, the cerebro-spinal and the sympathetic.

It is well to note the intimate relation of the nerve supply of the pelvic organs and the various reflexes noted in affections of the bladder, for example pain in the bladder and rectal tenesmus, affection of the rectum and retention of urine, and in the male pain at the end of the penis in stone of the bladder.

The lymphatics of the bladder terminate in the glands situated along the internal and external iliac vessels. The mucous membrane of the bladder contains no lymphatics. There are small lymphatic glands situated in the prevesical space in which prevesical abscess may originate.

The rectum lies close against the vagina and uterus. It is quite free from the uterus, being separated by two layers of peritoneum. Normally these layers lie closely opposed to one another so that a finger passed into the rectum sufficiently deeply comes immediately into contact with the posterior uterine wall. The rectal wall and the two peritoneal layers alone intervening, this potential space may however abnormally contain the fundus uteri in retroflexion, the ovaries and tubes in prolapse or disease of those organs, small intes-

tine or tumors of the uterus or other adjacent organs, but all these must be considered as foreign bodies.

The peritoneum is the serous membrane which lines the abdominal cavity and invests to a greater or less extent the viscera. The peritoneum is similar to the synovial membrane of a joint, or the pleura. They all line a cavity and invest whatever encroaches upon the cavity. Peritoneum is either parietal, when it lines the abdominal wall, or visceral when it is reflected over the contained viscera. It has been stated that the peritoneum is a closed sac. This is not strictly true in the female, since the external extremity of the Fallopian tube communicates with the peritoneum. This is the only instance in which a serous membrane is continuous with a mucous membrane. It explains a number of pathologic conditions arising in the female pelvis.

The parietal peritoneum, which lines the walls of the abdominal and pelvic cavities, varies in thickness at different points. It is very thin and adherent at the umbilicus and along the linea-alba. It is thick and opaque in the lumbar region and iliac fossa. The subperitoneal connective tissue permits of a gliding movement of the peritoneum and it also varies in thickness, being most abundant in the lumbar region and at the margin of the pelvis. Thus the parietal peritoneum is very movable at certain parts and readily displaced, as is observed in the formation of a hernial sac, tumors, etc. The protruding mass first displaces and then distends the peritoneum in front of it until a pouch of peritoneum is formed which constitutes the sac of hernia or covering of a tumor.

The visceral peritoneum completely or partially invests the viscera. It is much thinner than the parietal layer and so transparent that the color of the organs can be seen beneath. It does not adhere to the organ or viscera which it covers, but is separated by a thin cellular layer which is very elastic. This characteristic is observed in the enormous distensions which are possible and the size attained by the pregnant uterus without apparent damage to the investing membrane.

The Peritoneal Vessels.—The peritoneum, like other serous membrane, does not possess an arterial and venous circulation of its own, but is supplied by the vessels of the different organs which it covers.

Clinical Considerations of the Peritoneum.—The two chief characteristics of the peritoneum are its power of absorption and its

power to form adhesions. The peritoneum must be regarded as a large lymph sac, where absorption takes place with great rapidity. Hence in septic peritonitis the danger is from fatal toxemia due to the rapid absorption which is most rapid at the diaphragm, slowest in the pelvis. This fact has been utilized by surgeons in suggesting that the head of the bed be raised after abdominal operations in infected cases, in order that the drainage may be directed toward the pelvis, where absorption is less rapid and consequently less liable to produce grave toxic effects. On the contrary if after an abdominal operation salt solution is left in the abdomen or given by hypodermoclysis or used by enema because of shock or hemorrhage the foot of the bed should be raised in order that the fluid may be directed toward the diaphragm. Where more rapid absorption takes place the peritoneum normally secretes sufficient serum to lubricate the surface, but when irritated or infected it produces a plastic exudate—which establishes adhesions (peritoneal glue) between contiguous peritoneal surfaces. It is this property of the peritoneum which forms the foundation of all operative surgery of the abdominal cavity. Observe its practical application in, first, repair of visceral incision, when anastomosis between the ends of a divided intestine is obtained by approximating the serous surfaces and union is obtained in a few hours by means of the plastic exudate (peritoneal glue); second, as a prospective agent in peritoneal infection the plastic exudate forms a wall of adhesions about the infecting focus, isolates it from the general cavity and thus prevents general peritonitis; third, this remarkable property of the peritoneum to form adhesions while beneficent in many ways may also be the cause of conditions more or less grave by preventing the normal mobility of the viscera and becoming the source of intestinal obstruction.

The peritoneum possesses distinct lymphatic vessels which have, according to Byron Robinson, three modes of origin. First, by stomata between endothelial cells which are in direct communication with lymph vessels; second, by interstitial spaces in the subperitoneal tissue; third, by a plexiform origin similar to interstitial spaces. In fact the peritoneum is a lymph sac in which the absorption is rapid. It has been estimated that 8 per cent of the body weight may be absorbed in an hour. Thus is explained the rapid absorption of the infection and the overwhelming

toxemia which accompanies a general septic peritonitis. Absorption takes place most rapidly in the region of the diaphragm and slowest in the pelvis.

The Nerves.—The parietal peritoneum is supplied from the nerves of the abdominal wall, the visceral peritoneum from branches of the solar plexus. The latter in a normal state possesses very little sensation; when irritated however they may give rise to grave reflexes, such as cardiac and respiratory collapse, intestinal paralysis and anuria. These phenomena are observed not only in peritonitis but in the course of intraabdominal operations of long duration.

The Peritoneal Folds.—The peritoneum not only forms a closed sac which lines the abdominal walls and is reflected upon the contained viscera but by its folds and reflections it forms omenta, mesenteries, ligaments, etc. These peritoneal folds assume different names according to their functions. The mesentery is a fold of peritoneum extending from the abdominal wall to some segment of the digestive tube; for example the mesentery which suspends the small intestines from the back of the abdomen.

The ligaments are folds of peritoneum attached to the viscera not a part of the digestive tube; for example, the suspensory ligament of the liver, extending from the diaphragm to the outer surface of the liver.

The omentum is a fold of the peritoneum extending from one viscus to another; for example, the great omentum attached to the stomach and transverse colon. These various peritoneal folds contain more or less connective tissue in which blood supplies the viscera, therefore of great importance from a surgical standpoint. Their function is twofold, viz., fixation and nutrition.

The great omentum is a voluminous fold of peritoneum extending from the transverse colon. It is spread over the small intestines like an apron as far down as the pelvis and separates them from the anterior abdominal wall. The great omentum consists of two descending layers of peritoneum which proceed from the lower border of the stomach as far as the pelvis, where they ascend to enclose the transverse colon. Between the layers of the omentum is situated a part of the lesser peritoneal cavity which forms the omental bursa. In the adult however this portion of the lesser peritoneal cavity is apt to be obliterated by adhesions. The great omentum varies in length and thickness. In children it is thin,

transparent and short. In adults it is thick and usually extends as far as the pelvis. There is however much variation in length. In the obese it is loaded with fat and contributes in a large measure to the size of the abdomen. The great omentum inclines a little more to left than the right in the abdominal cavity.

The omentum may be adherent to the parietal peritoneum. It is much more frequently adherent to the pelvic viscera. It may be attached at definite and narrow points. It may cover in the pelvic contents, being attached to the pelvic brim, to the tubes, to the uterus, to the large intestine or to any one of these. It is rarely attached to the pubis, to small intestine or to the bladder. Its attached border is thickened for a short distance, usually for not more than an inch.

The Function of the Great Omentum.—When its situation and its vascularity and its action in intraabdominal accidents, neoplasms and infections are considered, it is obviously an organ of protection. It has been called "the abdominal policeman," and the correctness of the applied term is not far wrong, when its propensity to attach itself to wounded areas and to wall off infectious processes is considered. Its functions may be summarized as follows: In wounds of the intestines or perforations from disease the omentum may attach itself to the wounded area and prevent escape of intestinal contents. In infectious processes the omentum may wall off the inflammatory focus and prevent its spread from one region of the abdomen to another. An ovarian cyst or fibroid with twisted pedicle may be rescued from gangrene by forming omental adhesion and receiving nourishment through the omental vessels. Ascites from obstructed portal circulation is sometimes relieved by forming adhesions between the omentum and anterior abdominal wall (epiploexy) and thus forming an accessory anastomosis between the portal and general circulation. Dr. Nicholas Senn made use of omental grafts by attaching it over an intestinal suture to give additional strength to the line of union. In addition to its function of protection it undoubtedly plays an important part in regulating the abdominal blood distribution. Witzel estimates that one-fourth of the visceral blood supply of the abdomen can be contained in the omental vessels. It must be remembered that omental adhesions, while they often serve a useful purpose, may likewise form bands beneath which a loop of in-

testine may become strangulated. Intestinal obstruction may be caused by a loop of intestine finding its way through a rent in the great omentum. Therefore any slit or tear in the omentum should be closed by suture, although there may be cases of vomiting and epigastric pain by traction on the attached omentum. One of the most important points in the technic of abdominal surgery is carefully placing the omentum over the field of operation to prevent adhesions between the viscera and cicatrix.

The ureter lies beneath the peritoneum during its whole course from kidney to bladder. The ureter varies from fourteen to sixteen inches in length. It passes down on the surface of the psoas muscle to the pelvic brim, crossing the common iliac just before its division and lying to the inner side of the internal iliac artery. It passes beneath the uterine artery and enters the base of the bladder, passing under the end of the ileum on the right and the sigmoid flexure to the left. Its passage over the brim of the pelvis is about half-way between the posterior central line and the point where the upper edge of the broad ligament would strike the pelvic brim if produced as a straight line. It sinks down into the pelvis beneath the peritoneum which lines the outside wall of Douglas pouch, and comes forward at the base of the broad ligament which it enters from behind. It is always below the uterine artery. At the level of its crossing of the uterine artery it is approximately half-way between the cervix and the pelvic wall. Anterior to this it appears parallel to the upper anterior vaginal wall, where on each side it forms the urethral fold. The only structure which can be mistaken for the ureter is the obturator nerve. Since arteries pulsate and veins are too collapsible and thin walled to give the necessary resistance, the obturator nerve may be distinguished if slight traction or pressure be made upon it. Besides the nerve lies further out and can be traced as running downwards and outwards towards the obturator foramen, not inwards towards the bladder as is the direction of the ureter. The ureter traverses the base of the broad ligament in company with the uterine vessels, at which point it is from one-half to one inch from the base of the cervix. The ureter crosses behind the uterine artery and descends obliquely along the lateral fornix of the vagina to the vesico-vaginal space, where it enters the base of the bladder at a point about one inch below the level of the external

os. Abnormalities of the ureter are quite frequent and consist of a double ureter, sometimes double ureter on one side, no ureter on other side, or ureter on one side and other ureter absent, as in horseshoe kidney, etc. "Sometimes the ureter may empty into some other part (the seminal passages in the male), the vagina, or even the rectum."—Morris.

The ureter plays an important role in surgical pathology because of the obstruction which may occur from pressure, especially in pelvic tumors. In abdominal and pelvic operations wounds of the ureter should be carefully guarded against, more especially in operations on the lower part of the uterus. If the ureter should be wounded during the course of an operation immediate suture of the divided ends should be made or the implantation of its upper end into the bladder, intestine, rectum or vagina.

I believe injury to the ureter or ligation of ureter in hysterectomies, both vaginal and suprapubic, for removal of fibromyoma and other pathological neoplasms, such as cancer, etc., have occurred much more often in this country and abroad in the hands of all classes of operators than any of us would at first surmise, when we consider the normal close proximity of the ureter to such other normal tissue prone to great anatomical and pathological distortion and transformation by tumor growth. As we must divide and ligate, we can begin to realize how often a ureter could be injured or ligated. Inasmuch, however, as it is often very difficult if not impossible to be certain in any given case at what precise point the tumor in question first developed, it is not wise to suspect the presence of the ureter above the tumor. The position of the ureter even in these cases varies. Should the growth have started in the cervix it may during development push the ureter upward and then the ureter will be found beneath, stretched over the main mass and dipping downwards behind towards the pelvic floor and in front to reach the base of the bladder.

Kelly advises detaching the uterus from the normal side and rolling out the uterus and tumor toward the side affected. During this process the ureter tends to slip over the surface of the growth outward, towards a safe position. Great care must however be taken when enucleating the fibroid from the connective tissue of the broad ligament, to use only blunt instruments or to keep the scissors or knife very close to the surface of the tumor. As the ureter becomes flattened it is easily

mistakable for some band of fibrous tissue. It is in these cases especially that the network of small arteries in the broad ligament which has been referred to becomes of great importance, as it is much developed and is fed from all sides.

Etiology.—The essential cause of fibromyoma is not known. Some interesting theories have been advanced. Fibromyoma is said to be analogous to growths which frequently enlarge the prostate in the male. Uterine fibromyomata are usually multiple, there being but few exception to the rule. Child bearing apparently has no influence causing them. This is in marked contrast to carcinoma of the cervix, which occurs almost exclusively in women who have borne children or who have had some injury to the cervix.

Anatomy.—Myomata undergo more or less complete fibromatous degeneration and later are mixed tumors usually with a preponderance of the fibrous tissue. These growths occur in 20 to 40 per cent of all women having reached 35 years of age. Apparently found more frequently in the brunette and darker races. The negro seems most susceptible.

Fibroids are found most frequently in the years of sexual activity of women, being practically never seen before puberty nor appearing primarily after the menopause. The menopause is often postponed in fibroid cases until fifty or sixty years of age. Fibroma may occur in any part of the uterus, fundus or cervix, but much less frequently found in the cervix. They are found primarily in the myometrium and are then called interstitial or intramural. As they grow some tend to be extruded into the uterine cavity, becoming submucous. The extrusion may go on until the fibroid becomes pedunculated in the cavity of the uterus (polypus) or even until the polypus is entirely cast off; during this process at times adhesions to the vaginal walls may take place.

Tumors may be extruded into the peritoneal cavity, becoming subserous fibroids. These likewise may become pedunculated and form adhesions to the adjacent peritoneal surfaces. Large fibroids are usually nourished from the adhesions as well as from the primary pedicle from the uterus.

The interstitial tumors are naturally most common, perhaps 50 to 60 per cent of all fibroids. They are usually enclosed in a capsule of less dense connective tissue from which they can be easily shelled out. At times they are rather a diffuse mass, being softer and con-

sisting of more muscle tissue than usually the case. The subserous tumors form about 30 per cent of all fibroids. If they are composed of muscle fibres in great part their surface is smooth, but if the fibrous tissue predominates the surface is more uneven and lumpy. Subserous fibroids frequently are so far extruded from the walls of the uterus that they remain attached merely by a pedicle. This pedicle which contains the blood vessels supplying the nourishment of the tumor, may become twisted or kinked, cutting off the blood supply, causing thrombosis of the vessels (more often the veins than the arteries), infiltration of the fibroid with blood and setting up an inflammation in the tumor which may lead to peritonitis and adhesions or to necrosis of the strangulated tumor, or tumors may live and grow by and from adhesions, thereby becoming the so-called wandering tumor. Symptoms which indicate a twist of the pedicle frequently occur in attacks that recur at irregular intervals, usually with increasing frequency and severity. Submucous fibroids are less common; they form about 20 per cent of all cases. Like subserous they may be either sessile or in their later development pedunculated. The pedunculated submucous are called fibroid polyps. At first submucous polyps are spherical but later they become pyriform, the stump becomes thicker and tends to be reduced to merely mucous membrane and then to disappear, casting the fibroid off into the cavity of the uterus or vagina.

Submucous fibroids are usually soft and of rapid growth. In their early stages the blood supply is rich and bleeding is frequent and often profuse. In exceptional cases there may be no hemorrhage. Later necrosis often occurs from diminution of the blood supply.

Extrusion of the polyp is due to the growth of the fibroid and the softening caused by the edema and mechanical contractions of the uterus. It is in this class of cases that the hypertrophy of the uterine muscle is most marked and closely resembles the changes occurring in pregnancy. The shape of the uterus is changed by the presence of the tumor, causing irregularities in the form of the uterus on its external surface, the shape of the uterine cavity and the thickness of the uterine walls also, by hypertrophy of the muscle tissue throughout the entire uterus. Especially is the hypertrophy of the muscle tissue marked in the interstitial and the submucous varieties, where the tendency to extrusion by the uterine contractions are more marked than in

the subserous variety. The general shape of the uterus is markedly changed in the instances where a fibroid polyp in its process of extrusion has pulled the uterus after it and produced an inversion of the uterus which may be more or less complete.

Histology.—The peritoneal coat of the uterus is not changed by the presence of fibroids, except in its relations to other pelvic organs. Mucous membrane is stretched and atrophied over the mass or tumor and in the valleys between the tumors. Mucosa is thickened and hypertrophied. The structure of the mucous membrane remains of the same type as in the normal conditions, or may show the inflammatory changes due to endometritis. The muscular layer of the uterus shows great modification; cut section of uterus through the fibroid shows the tumor mass to stand out above the level of the section. Due to the firmness and tension of the tissue, the muscle coat around the tumor is thickened and consists of unstriped muscle cells which have undergone hypertrophy and hyperplasia. Tumor may consist of single node or of many. In each there is a network of fibers arranged in groups, the fibers interlacing or at times arranged concentrically. Consistency of mass or tumor depends upon the portion of fibrous and muscle tissue. The more muscle tissue there is present the softer the tumor, and similarly with the increase in muscle tissue the color of the tumor becomes more and more pink in place of the grayish asbestos-like color of the pure fibroma.

Symptoms that call attention to the presence of the tumors vary so much that it would be a very difficult matter and require so much time and space that I shall but briefly mention some of the most general symptoms. Position and character of tumor have much to do with production of symptoms, viz., enlargement of abdomen, tumor felt somewhere in abdomen or pelvis, bleeding or suppression, reflex neuroses, serous discharge, or discolored discharge, mucous or mucopurulent discharge, due to inflammatory condition of the endometrium. Attempts of the uterus to expel the foreign mass tend to produce rhythmical pains. Pains due to the tension in the uterine walls, pain in some forms of degeneration, as sarcoma, etc., pain from compression of the other pelvic organs by the tumor, when tumor mass fills the pelvis and becomes incarcerated in the hollow of the sacrum, whether due to the simple growth of the myoma, degeneration or pregnancy, there will be constant dull aching

pain in the sacrum, where fibroid becomes twisted on its pedicle, there is pain due to consequent inflammation of the tumor (fibroiditis) and possibly peritonitis. Presence of tumor decreases capacity of pelvis and abdomen and interferes with the physiological actions of other organs.

Tumor, whether growing from the anterior wall or pushing the uterus forward, irritates the bladder or urethra, producing bladder symptoms, vesical tenesmus, frequent or difficult urination or retention of urine. In some case compression of ureter in the broad ligaments damming back urine into pelvis or kidney with hydronephrosis and hydroureter nephritis or a purulent inflammation of the urinary tract. Such cases may have anuria following anesthesia, tumor pressure on the rectum or colon, rectal tenesmus, difficult defecation, intestinal obstruction and effects higher up in the alimentary canal, distention of intestines with gas and fermentation, etc. Pressure which interferes with the circulation of blood through the iliac vessels leads to varices in the tributaries of both internal and external iliac veins, possibly to thrombosis and subsequent embolus. Pressure on sacral plexus of nerves causes pain in the branch that is compressed. Some cases of sciatica are thus accounted for. As the tumor grows out of the pelvis and occupies the abdominal cavity, the interference with the activities of the intestines is more marked and there may be more or less interference with the action of the diaphragm, breathing and heart's action. Inflammatory conditions from trauma or without known cause, acute onset of pain, acute peritonitis, nausea and vomiting, rapid increase in size of the tumor, may all pass off. patient be apparently well again, but to have a recurrence of the same symptoms in a later attack. In rare cases patients have disturbances of respiration or of the circulatory system not dependent upon interference with the action of the diaphragm or to the size of the tumor, but occurring when the tumor is limited to the pelvis. Such symptoms we understand as reflex neuroses, though we may not be able to identify the nerves involved.

The growth of fibromyomata increases with the premenstrual congestion and increased vascularity. In most cases tumor growth is slow, many of them always remain small, especially the hard encapsulated tumor. The soft myomata rich in blood vessels grow much more rapidly. In many cases of fibromyomata there gradually comes on a chronic anemia with a

marked decrease in the percentage of hemoglobin.

Chronic progressive anemia leads to the usual train of symptoms, of which those depending on the degeneration of heart and kidneys deserve special mention on account of their importance in prognosis and as affecting results of operation.

Classification.—Myoma is a muscle tumor; occurs under two main forms, multiple and encapsulated or soft, single and unencapsulated.

The multiple encapsulated tumors begin in the fundus or body of the uterus, the single unencapsulated tumors begin in the cervix and lower segment of the body. This however, though usually the case must not be taken as an absolute rule. A single hard encapsulated tumor or a single soft unencapsulated tumor may be found springing from the body or fundus, or cervix, but perhaps more than 80 per cent of all fibromyoma originate or start above the cervix. Various other classifications of varieties are given, as the symptoms differ greatly, according to the position of the growth.

Also tumors have been classified according to the pathological process of which they may become the seat.

It has been estimated that 20 per cent of all the women who have reached the age of thirty-five years have fibromyomatous growths (Bayle); in 40 per cent of women of fifty years (Klob), but the great majority are small tumors.

The growth of the tumor is usually slow. When rapid increase in volume is observed it arises not from an increase of tumor elements but from a disturbed condition of tissue fluid. The most favorable condition for rapid growth is newly formed anastomoses, intimate vessel union with uterus, pregnancy, etc.

The hard encapsulated form is composed mainly of fibrous tissue arranged in concentric rings or whorls, which intersect or blend with each other. Such tumors contain few blood vessels in their interior, but large vessels, especially veins, are found in and just outside of their capsules. To this capsule the growth is attached by fine fibrous bands which bands are usually easily broken through, so that when once the capsule has been divided the mass or tumor easily shells out. Except at one point at which its main vessels enter, when the capsule has been emptied, there is rarely any bleeding from capsule or its connections.

Hard encapsulated tumors grow slowly; the capsule is formed of the compressed, flattened

tissue around the tumor; therefore, while but slightly connected with the mass or tumor within it is in intimate relation to and direct continuation with the uterine muscle and intermuscular connective tissue without.

The soft unencapsulated form contains a much larger proportion of smooth muscular fiber and is much more vascular. Its boundaries are not clearly marked and there is no actual capsule. The connective tissue splits the muscular bundles into distinct groups, carrying blood vessels into its interior. These tumors grow much more rapidly but never grow as large as the hard encapsulated tumors.

It is quite probable that no myoma ever originated in the uterus prior to puberty or subsequent to the menopause. All myomata originate in muscular fibrous tissue. The uterus is a muscular organ invested with peritoneum directly continuous with the folds of the broad ligament. The thickness of its walls consist of unstriped muscle which is really a muscularis mucosa. The true subserous investment is a layer of unstriped muscular tissue directly continuous with the uterine muscle and that of the broad ligament belonging really to the peritoneum. The endometrium contains some muscular fiber. These three coats, the muscular wall, the subserous coat and the endometrium all play their part in the origin of fibroids. Also the round ligament and the ovarian ligament contain unstriped muscle.

Myomata are divided into interstitial, or intramural, submucous, subperitoneal, arising from the subserous or peritoneal coats of the uterus, the broad ligament, round ligament or ovarian ligament, intracervical, subcervical. But upon tumor proximity to the inner or outer surface much depends upon their future growth and ultimate condition of the patient.

Diagnosis.—In diagnosis of fibromyomata we must consider the history of the woman, the general examination of the body and the local examination of the uterus. Bloody vaginal discharge, occurring as metorrhagia or menorrhagia, persistent or increasing in quantity, compression symptoms, interference with bladder, rectum, blood vessels or nerves, sterility, repeated miscarriages, or births with malpresentation, the history of any of the complications of the cause of the tumor, all point toward its presence, and the more of these points that are brought out, the greater the probability that the physical examination will find a tumor. The general examination in the earlier periods shows nothing charac-

teristic, but later, as the effects of the fibroids become more marked, the general examination becomes more significant.

The presence of anemia may be an early symptom, and is to be distinguished from the appearance of malignant cachexia. Both may give similar history. Myocarditis and nephritis as results of the anemia should be looked for. Varices of legs and tributaries of the internal iliac veins or thrombosis of these vessels, with the consequent swelling, may be found. Abdominal examination may show the presence of tumor in pelvic regions—the hard solid or the cystic, more or less fluctuating mass of the soft myomata or of the degenerated tumors. The hard multiple nodules attached to the movable uterus are characteristics. Percussion over the mass, if it is in contact with the abdominal wall, is, of course, dull; auscultation may find uterine soufflé in the large nutriment vessels of the tumor. Sometimes a faint thrill, due to the blood in these large vessels, may be perceptible to the touch. Vaginal examination is the most important part in the diagnosis. There is frequently a catarrhal discharge, may be bloody, or blood stained. In the necrotic cases discharge may have a foul odor, and on microscopic examination show mucus, red and white blood cells, and broken-down tissue cells. The vaginal mucous membrane may have assumed a slightly cyanotic color that some gynecologists claim to be able to distinguish from the violet hue of pregnancy. There may be present the varices of the labia or of the vaginal vessels. Palpation usually finds the cervix firm, but may be slightly more softened than is normal. The position and size of the uterus vary in each case according to the size and location of the tumor. The most characteristic and significant symptom is the presence in the uterus of one or more circumscribed firm tumors, surrounded by less firm tissue of the uterus. The ovaries and tubes may or may not be felt. I think in all cases rectal examination should be made, in addition to vaginal examination, in order to palpate higher over the posterior wall of the uterus. Sometimes it is well to combine traction on the cervix with rectal examination. Often ovaries and tubes can be made out in this way that cannot be felt through the vagina. Fibroid polypi may be felt protruding through the cervix, and may be seen with speculum. In some cases the polypi is not protruding; in the vagina it may be felt at the internal os; may be more prominent at or just before the menses, and may

simulate abortion. Cervical and intraligamentous fibroids are usually easily made out.

I wish to express my advice decidedly against the use of sounds and probes in examination of the uterus for myomata or neoplasms of any kind. For the same reason that probes should not be used in gunshot wounds, danger of infection and hemorrhage, sounds and probes should not be used except when patient and instrument have been prepared for the operation.

Differential Diagnosis.—Conditions to be differentiated or excluded in the diagnosis of fibroids are antelexion and retroflexion of the uterus, distinguished by absence of any nodule on surface of the uterus which could be taken for the fundus in the normal position, and the rectal examination will reveal the true condition. Chronic metritis produces enlarged and hyperplastic uterus, but enlargement is uniform, not irregular; bleeding is less profuse; the catarrhal discharge more marked; the os is often everted and the entire uterus sensitive. With the fibroid the os is more usually normal and the uterus not sensitive. Inversion of uterus might be mistaken for fibroid polypus, but in inversion the orifices of the Fallopian tubes can usually be seen at the lower end of the uterus. Bimanual examination helps to reveal the shape and position of the uterus. Rectal examination may help reveal the condition. In normal pregnancy, during the early months, the uterus is symmetrically enlarged, and the whole uterus is somewhat softened. In interstitial or submucous fibroids an almost identical condition may be produced. In pregnancy the cervix becomes more softened; in fibroids the cervix remains firmer.

In pregnancy the menses are absent; in fibroids bleeding is increased and the menstruation more profuse. In later months positive signs of pregnancy may be found; of course they are absent in fibroids.

Incomplete abortion, or where the fetus dies and is not expelled from the uterus, but becomes desiccated, the uterus contracts down on mass, giving an irregularity in the shape of the uterus that very closely simulates that found on examination in an interstitial or submucous fibroid, and the subsequent endometritis gives bleeding and discharge that very closely imitate the history of fibroids. Here the diagnosis can be made only by examination of the interior of the uterus by curettage.

Ectopic pregnancy gives irregular hemor-

rhage after a period of amenorrhea that should always raise suspicion. There is usually a mass on the outside of the uterus, and if the ovum is lodged in the proximal end of the Fallopian tube, may appear to be part of the uterus. The mass is less dense than the majority of fibroids, and is more tender. The ectopic pregnancy, too, is usually associated with the sharp attacks of pain and collapse that are significant of more than the fibroid. It is always lateral. There may be given off in the uterine discharge a portion of the decidua.

The pelvic hematocele would be confusing with fibroid only in its later stages. It is of rapid development, accompanied with sharp, acute pain, sensitive and not connected with the uterus. In the early stage it is soft and diffuse, but later becomes firmer and more easily defined.

Pelvic exudate occurs after a history of possible infection. Like the hematocele, the development is rapid. It is tender, and the uterus is fixed in position. The consistency is at first hard, but later becomes softer and may fluctuate. It is associated with constitutional symptoms that accompany septic processes in general—the fever, chills, prostration, and the increased leukocytosis.

Pus tubes give a similar history, but the vaginal and rectal bimanual examination will show masses that are more or less separate from the uterus instead of being intimately connected with the uterus, and are usually symmetrical and bilateral.

Ovarian tumors, fibromata and dermoid cysts may closely resemble uterine fibroid. Cystic ovarian tumors can generally be distinguished by their fluctuation and by being found to be distinct from the uterus on examination.

The pedicle by which they are connected can usually be palpated by rectal examination with the uterus drawn down by traction on cervix. Fibromata and dermoid cysts are both frequently adherent and are frequently mistaken for uterine tumors.

Intraligamentary cysts can be easily mistaken for degenerated myomata. Their situation and greater degree of fluctuation should distinguish them.

Malignant tumors of the ovary may be confounded with uterine fibroid, especially when the latter have undergone malignant degeneration. They are of more rapid growth and produce more marked general symptoms. It is usually a matter of no great importance

to make a differential diagnosis, as a laparotomy is usually indicated in every case.

Carcinoma and sarcoma of the endometrium can usually be distinguished from fibroid by the uterus being softer, more symmetrical, and by producing greater constitutional symptoms. The only certain method of diagnosis is by curettage and examination of scrapings by microscope.

A serious mistake is to confound a soft myoma with pregnancy or a pregnancy with a soft myoma. This mistake has frequently happened in the hands of experienced surgeons and gynecologists. Careful history, careful and repeated examinations should prevent such mistakes, which are the result, usually, of careless and hasty examinations.

Degeneration.—Importance of the diagnosis and prognosis of the degenerations to which fibroid tumors are liable and the complications with which they are associated.]—Simple atrophy of the fibroid at times occurs with involution of the genitals after pregnancy or the menopause. Calcification of the tissue of the fibroid leading to the formation of uterine stones at times occurs with increasing age. Such uteroliths are usually composed of carbonate and phosphate of calcium, and may be of considerable size.

Fatty degeneration occurs less frequently than calcification.

Amyloid degeneration occurs usually when associated with similar general degenerations in other organs.

Myxomatous degeneration is more common in the submucous and interstitial forms than in the subserous; may lead to cyst formation.

Myxomatous condition is frequently associated with edema of the fibroid, and the two conditions grouped together are responsible for more of the cases of degeneration of the fibroids than any other cause, except necrosis. Necrosis may occur in either of two forms, noninfected necrobiosis, most common in large interstitial fibroid, producing usually slight symptoms. If fibroid, in the course of its necrosis, becomes infected, either from peritoneal surface (colon) or mucous surface (curettage), more marked septic or septic symptoms may develop.

Necrosis is due to decreased nutrition of the tissues of the fibroids. Such may arise from poor general health, anemia, pregnancy, and similar conditions, or from the treatment to which the fibroid has been subjected—ergot, electricity, curettage, etc. Symptoms produced by sloughing of a submucous fibroid

may be the same as those obtained in the clinical history of cancer of the uterus, but examinations will show the growth to be tough rather than friable, and the microscopic examination of the detritus will give the correct diagnosis. Symptoms of the subserous fibroid that has become necrotic are those of peritoneal inflammation, either localized as a pelvic abscess or diffuse. Inflammatory processes in the fibroid may take the form of round cell infiltration or suppuration, and occur fairly frequently. Changes in the vessels of the tumor lead to edema and infiltration of the tumor. They occur most commonly with incarceration of uterus or with torsion of the pedicle. Uncomplicated, they lead to obstruction of circulation in the branches of either the external or internal iliac veins. If the thrombus becomes infected, there are the complications of sepsis and septic emboli. Of the mixed tumors, cystic degeneration of the fibroids is the most common in these cases. Growth of the tumor becomes much more rapid, but symptoms are only slight. May be confused with ovarian cyst. Sarcomatous degeneration occurs fairly often. It is marked by rapid increase in the rate of growth of tumors. They are confused with simple fibroids, and may not be suspected after removal until secondary masses appear. Even the microscopic distinction between the simple fibroid and myosarcoma is often difficult and misleading. Fibrosarcomatous degeneration occurs in about 3 per cent of all fibroids. Carcinomatous degeneration of fibroid tissue does not occur, in the cases where there is involved a certain portion of gland tissue there may arise the adenocarcinomata. Epithelium covering the intrauterine surface of the fibroid is subject to abnormal conditions, and is more liable to undergo carcinomatous changes which may secondarily involve the fibroid by direct extension, though such an extension is rare on account of the density of the fibroid tissue. Cullen reported two cases of carcinomatous invasion of the fibroid from the endometrium.

Ten cases of adenocarcinoma occurring with fibroids. Both of these classes of carcinoma of the uterus may lay their cause to the presence of fibroid. Such can hardly be claimed in the cases where carcinoma of the cervix complicates fibroids, which it frequently does. Diagnosis in doubtful cases can be determined by the microscope.

Prognosis.—A certain number of cases of fibroids give no symptoms or inconvenience.

This applies not merely to small fibroids, but to some large tumors that rise to the umbilicus, apparently with little or no constitutional effect, but which are the cause of a great deal of annoyance and discomfort, or even invalidism; but in many of the simplest appearing cases the tumor is sapping the woman's vigor and vitality, often threatening life, without the occurrence of complications. In a few cases there is an atrophy of the fibroids after the menopause with a decrease of the symptoms. More commonly, however, the menopause is followed by degeneration of the fibroids. The menopause is usually postponed to fifty or sixty years of age. That the menopause does not bring the atrophy of the fibroid that has been commonly taught is shown by the large proportion of the cases that come to operation in later life.

In giving the prognosis of fibroid tumors, if we include the complications, the danger is markedly increased.

Noble, in *American Gynecology*, April, 1903, reported the collected statistics from 688 cases treated by himself, Martin, Frederick and Cullingworth. Of these, the number of deaths from the tumor itself or from the uterine complications of the case, if not operated on, is estimated by Noble and Martin at 16 per cent, by Frederick and Cullingworth at 23 and 24 per cent, respectively. The deaths from all complications are estimated by Noble and Martin at 45 and 46 per cent, respectively, and Frederick considers the fatalities to be equally as great; so that Noble concludes: That without operation at least $33\frac{1}{3}$ per cent of the cases will be fatal and 25 per cent chronically invalided, and most of the remainder uncomfortable. If this proportion is established by the experience of others, as it seems to be, it certainly is, as Noble says, a strong argument for early operation, as the conservative treatment for the mortality of myomectomy and hysterectomy is from 2 to 10 per cent, and would be lower in earlier operations, and there would be a marked decrease in the morbidity.

Some disease of the Fallopian tubes as a complication of the presence of fibroid tumors is very common. It may be a simple hydrosalpinx or a pyosalpinx. Adhesion may be extensive and very greatly complicate any operative procedure. The most frequent cause of this condition is undoubtedly the result of infection which has traveled through the pelvis and makes the tubal mucous membrane a more favorable soil. Pressure of the

growth upon a Fallopian tube may interfere with circulation, cause a distention of its cavity and the formation of a tubal collection. This defective drainage causes regurgitation into the pelvic peritoneum from the abdominal end of the tube, which sets up a peritoneal inflammation and produces a gluing up of the tube and the formation of a hydrosalpinx or pyosalpinx, according to the exposure or absence of infection.

The existence of fibroid tumors does not necessarily increase the tendency to ovarian growths, nor does their presence preclude the development of cysts in the ovary. The presence of an ovarian cyst, with its rapid development, may greatly increase the distress of a patient who is suffering from a large fibroid tumor, and may necessitate earlier resort to the physician for relief. In very large ovarian cysts a fibroid growth may frequently be overlooked and detected only when the patient is subjected to operative interference.

The presence of fibroid growths increases the tendency to sterility, but does not necessarily preclude the existence of pregnancy. Recognition of the existence of pregnancy is of the very greatest importance, as the progress of the condition may have a marked influence upon the rapidity of the growth, while the growth may favor the premature interruption of the progress of pregnancy. This complication is of so much importance that it can be readily understood that the presence of a fibroid growth, for instance, of the polypoid or submucous character, renders the mucous membrane of the uterus unprepared for the retention of the fecundated ovum. The increased congestion of the uterus incident to pregnancy causes greater nutrition of the growth, results not infrequently in its rapid increase in size, and the growth which was situated in the pelvis is of itself raised out of it and forms a larger mass. In some cases growth is slow. The adhesion may hold the uterus down so that it cannot rise out of the pelvis, and we may have, as a result, an impaction of a mass in the pelvis similar to that which occurs in the gravid retroflexed uterus. Sometimes the rise of the growth in the pelvis may be rapid, or it may be situated low in the pelvis, and not emerge from it until between the sixth and seventh months.

Introligamentary growths become altered by the pressure, and cause a great deal of distress.

The fibroid polypus or submucous tumor is sometimes extruded into the vagina, from

where it may be removed without any indication of interference with the pregnancy. Marked changes in the size, form and consistency of the uterine growth may be noticed. The increase in size is often due to edema. Venous engorgement frequently occurs as a result of obstruction of the veins, while the blood is continually poured into the structure by the less readily controlled arteries. Where a number of fibroid growths are situated together in the pelvis, they frequently become nonpedunculated and subserous growths, often becoming flattened from pressure. The circulation can be obstructed to such a degree as to result in necrotic changes. Such changes require early and prompt interference in order to save the life of the patient.

Contraindications to operation are advanced pulmonary tuberculosis, nephritis, heart disease, acute illness, etc. There are also many women who will not consent to operative treatment, even where it is strongly indicated. In such cases and in other cases where the interference with health as a result of the tumor is not pronounced, palliative treatment must be resorted to.

The principal objects of palliative treatment are to lessen hemorrhages, prevent kidney, bowel, bladder and other complications, if possible; to diminish the pain and preserve the general health of the patient. Treatment may be divided into hygienic, medical, electrical and surgical.

I purposely omit electro-puncture of the myoma, salpingo-oophorectomy, and the ligation of the large arteries supplying the uterus, because they are dangerous and unsatisfactory in results.

By the radical treatment of fibromyomata of the uterus is meant the removal of the tumor or tumors, with or without the whole or a part of the uterus. We may for convenience consider separately the removal of myomatous polyps, the enucleation of submucous myomata, vaginal hysterectomy or myomectomy, abdominal hysterectomy or myomectomy and panhysterectomy.

After due consideration of the condition of the patient, condition and position of tumor and the complication, I prefer the vaginal hysterectomy in all suitable cases; that is to say, where tubes and ovaries are not involved, where pelvic adhesions have not formed and the tumor is sufficiently small to admit of easy and accessible ligation of uterine attachments.

Vaginal hysterectomy, as above stated, se-

lected in suitable cases, can be performed in from ten to thirty minutes, with much less handling, and thereby much less traumatic effect to abdominal viscera and tissues, with vaginal drainage.

I use six to eight No. 9 iron dyed silk ligatures for removal of uterus per vagina, with special care in application to broad ligaments of first two ligatures on either side, in which ligatures the uterine arteries are tied, keeping quite close to uterus for safe protection of ureter, which passes through base of the broad ligament from back to front, varying from one-half to one inch from uterine margin. Therefore, great care should be exercised to avoid such a formidable mistake as ligation or injury to one or both ureters; also due consideration and proper care must be exercised to avoid injury to bladder or rectum.

Abdominal myomectomy signifies the removal of one or more pedunculated subserous fibroids through an incision in the abdominal wall, preserving the uterus, Fallopian tubes, and the ovaries.

Abdominal Enucleation.—In this operation a sessile fibroid is shelled out of its capsule, the uterus, ovaries and tubes preserved.

Hysterotomy.—In this operation a submucous fibroid is removed through an incision in the wall of the uterus, which opens the uterine cavity. Tubes and ovaries preserved.

The preliminary steps for each of these operations is the same as for ovariectomy. Each case must be dealt with as indications may demand. In removing a large submucous tumor through an incision in the wall of the uterus, the surgeon necessarily opens the uterine cavity. After controlling the bleeding, the walls of the uterine incision are closed, as in Cesarean section.

In many instances in which the surgeon attempts to carry out myomectomy or enucleation he finds such difficulty in controlling the oozing blood that he is driven to perform hysterectomy.

It is admitted by most operators that the ideal method of dealing with fibroids requiring removal by celiotomy is to remove them either by ligature or enucleation, but in actual practice this ideal operation of removing the tumors and leaving the uterus and tubes and ovaries intact can only be carried out in a small proportion of cases, probably in less than 10 per cent, and it is fair to state that enucleation and hysterotomy are often more troublesome and serious operations, also the preservation of the uterus is not always

an advantage to the patient. When a woman submits to hysterectomy for fibroids we can assure her the tumors will not recur, but after myomectomy or enucleation in a woman in the reproductive period of life we cannot give her this assurance, for she may have in her uterus many latent fibroids, and one or several of these may grow into formidable tumors.

Abdominal Suprapubic Hysterectomy.—Abdominal hysterectomy may be performed in two ways, as complete hysterectomy (removal of uterus with neck and cervix, total or panhysterectomy), and other hysterectomy, removal of the body of the uterus by amputation at neck, leaving some portion of cervix. Dangers of hysterectomy are those common to celiotomy, such as sepsis, peritonitis, shock, ileus, and the risks of the anesthetic. There are certain special dangers, such as hemorrhage, injury to the vesical segments, to the ureters, the bladder, intestines, rectum, intestinal obstruction, thrombosis, embolism, etc.

In hysterectomy operation the abdomen is opened in the median line in the usual manner for celiotomy, but when the operation is performed for removal of large tumors it will require extension of incision to or above umbilicus. The operator should never allow himself to be embarrassed by a small incision. As soon as the peritoneal cavity is open the surgeon carefully introduces his hand and investigates or makes out the exact nature of the case, the presence or otherwise of adhesions, other tumors and relation of the fibroid to the uterus and determines whether it is impacted in the pelvis. The uterus is then carefully lifted out through the incision or drawn out with assistance of tumor hooks or forceps. The intestines and omentum are gently pushed upward and backward, away from the field of operation, and protected and held by a large, warm pack of gauze with tape attached. I wish to state and emphasize the importance of careful manipulation and minimum amount of handling the abdominal, peritoneal and visceral tissue. The mere handling and pressure of the hand in manipulating bruises contiguous tissue and causes congestion, with interference of circulation, which may materially affect a perfect recovery.

In simple cases the broad ligaments are transfixed by ligature and forceps; that is to say, ligature is passed with pedicle needle through broad ligament in sections, tied and

clipped between ligations and uterus. Bleeding vessels or stump on uterine side are clamped, thereby saving time.

I use No. 9 iron dyed silk ligatures. If the tubes and ovaries are healthy, and the surgeon decides to leave them, the ligatures are applied between the ovary and the uterus; but if they are diseased and must be removed, first ligature is applied to broad ligament, near brim of pelvis, beyond the outer pole of the ovary; the broad and round ligament on each side are ligated and divided near uterus, uterine artery secured and tied on each side of uterus. A peritoneal flap is then cut on the anterior wall of the uterus at its juncture with the neck, taking care not to injure the bladder, and a similar flap is cut on the posterior wall, taking care not to injure the rectum. The uterus can now be detached at or below the junction of the cervix with the body of the uterus. If ligatures have been properly applied to the vessels the detachment of the uterus is an almost bloodless proceeding. A small vessel here and there may require the application of small chromatinized catgut ligature.

As vessels, circulation and anastomosis have already been described, I shall not repeat here. At the same time, it must be remembered that with small and uncomplicated tumors vessels follow their normal course and can be easily found. But when the uterus is much deformed by large tumors and complication, the vessels are not so easily found or dealt with. They are of large size, and give rise to furious bleeding when divided. This applies to both arteries and veins. Especially enormous veins in pampiniform plexus, interspersed with lymphatics which are often much thickened. When all bleeding and oozing have been controlled the cervical stump and canal is examined, all being satisfactory, flaps are brought together by one or two interrupted sutures, and edges more carefully approximated by a continuous suture of chromatinized No. 1 catgut, carefully avoiding puncture of bladder and vessels with needle. With proper approximation of flaps there will be no projecting stump on the floor of the pelvis. Pelvic field of operation cleared of blood-clots, gauze-pads, etc., abdomen closed by approximation of the several structures, viz., peritoneum. Sheath of rectus muscle, to the proper approximation of rectus muscle sheath, depends very largely the abdominal wall support, as sheath of rectus muscle retracts so

much laterally that through and through sutures cannot approximate said sheath; stitching muscle without sheath would not afford support. Approximation of facia and integument completes closure. After-treatment same or as indication in other abdominal surgery.

DISCUSSION.

Dr. Snodgrass (Little Rock)—I think the paper is a most excellent one, but there are one or two points upon which, I must confess, I do not agree with him. I think we are all too fond of doing a vaginal hysterectomy. I do not believe that a man should do a vaginal hysterectomy if he can avoid it, unless it be for a malignant disease where it is necessary to remove the cervical portion of the uterus. In operating for fibroids we may find malignancy complicating. Then it is often advisable to remove all the uterine tissue at the distal end. But in the ordinary operation for fibroids I think we should conserve especially the cervical portion of the uterus for special reasons which you are all familiar with. It does not shrink the vagina; it does not produce the atrophy that sometimes follows vaginal hysterectomy. Another thing: I wish to disagree with him as to the use of the silk ligature. The silk ligature is a very good thing provided you do not accidentally get infection; but you may get infection into that ligature and have a suppurative sinus for months. I have a case of my own now, eighteen months after operation, with suppuration continuing all during that time. We know that we can use absorbent ligatures of chromatinized catgut, or plain catgut, that will hold the wound securely and will not produce those complications.

Dr. Smith (Hot Springs)—I believe there are many cases in which vaginal hysterectomies are far superior to the abdominal hysterectomies, and I speak from experience. Where we have suitable conditions I think vaginal operations are favored. They can be much more easily and quickly done with less injury and we are able to get perfect drainage. I must say I much prefer the vaginal method in suitable cases. I said that in my paper: "*Suitable, selected cases.*" Of course, there are very many small fibroids, or tumors, which cannot be very well removed through the vagina; but in all suitable cases, I wish to place myself on record that I much prefer the vaginal method of hysterectomy. I use silk because I believe it is safer than gut.

THE JOURNAL

OF THE

Arkansas Medical Society

Owned and controlled by the Arkansas Medical Society and published under the direction of the Council monthly.

Edited by
C. P. MERIWETHER, M. D.

307-8 Southern Trust Building, Little Rock, Ark., to whom all communications should be addressed.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

TWENTY-FIRST ANNUAL MEETING OF STATE MEDICAL EXAMINING BOARDS.

The National Confederation of State Medical Examining and Licensing Boards will hold its twenty-first annual meeting in Chicago, Ill., on Tuesday, February 28, 1911, at the Congress Hotel. The subjects to be taken up at this meeting will be a consideration of the state control of medical colleges; a report

by a special committee on clinical instruction; a report on the proposed materia medica list by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner of the Carnegie Foundation for the advancement of teaching, and some special papers on such subjects as the regulation of medical colleges, necessity for establishing a rational curriculum for the medical degree, and others by men eminently qualified to prepare papers upon such subjects.

These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public. The symposium will be composed of ten papers and be presented from the viewpoints of state, law, medical colleges, state medical examining and licensing boards and the medical profession. The contributors of papers to the Symposium on State Control of Medical Colleges are men of the highest attainments in matters pertaining to state, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the symposium is to determine, as far as possible, the feasibility of placing medical colleges under state control. The special committee on materia medica made a report at the St. Louis meeting of the confederation, June 6, 1910, and it was continued and instructed to report again at the next annual meeting of the confederation in 1911. The report of this committee, made at St. Louis, has received very favorable comment by many of the editors of medical journals, and should receive at the Chicago meeting extended and careful consideration. The report on Mr. Flexner's paper is published in the proceedings of the St. Louis meeting of the confederation, page 64, and will be open for discussion at the Chicago meeting.

An earnest and cordial invitation to this meeting is extended to all members of state medical examining and licensing boards, teachers in medical schools, colleges and universities, delegates to the Association of American Medical Colleges, to the Council on Medical Examination of the A. M. A., and to all others interested in securing the best results in medical education.

The officers of the confederation are: President, J. C. Guernsey, M. D., 1923 Chestnut Street, Philadelphia, Pa.; secretary-treasurer, George H. Matson, M. D., State House, Columbus, Ohio.

THIRD DISTRICT MEDICAL SOCIETY.

MINUTES OF ANNUAL MEETING OF THE THIRD
DISTRICT MEDICAL SOCIETY OF
ARKANSAS.

The house was called to order, President Rightor in the chair, at 9:00 o'clock a. m., November 29, 1910. The meeting was opened with prayer by Rev. E. McRee, of Stuttgart, after which we were heartily welcomed to the Queen City of the Prairie by Mayor S. W. Harper, and Dr. L. H. Morphew in the name of the Arkansas County Medical Society.

Dr. A. A. Hornor, of Helena, one among the oldest practitioners in the state, responded to the address of welcome in his usually interesting way, giving a complete history of the Third District Medical Society, with sketches from the life of the Arkansas doctor, together with some of the history of the state in the sixties, and its rapid progress.

The address of the president, Dr. H. H. Rightor, was a masterly one, and was well received, as was evidenced by the hearty comment of many of the profession present, and laymen as well. He dwelt especially on medical organization, the progress of medicine and surgery, discussing at length some of the more recent agents discovered for the treatment of cancer, tuberculosis and other dreaded diseases, and also giving a passing mention to the various exploded theories. He especially emphasized the importance of early recognition and early operation in the treatment of cancer. At the conclusion of the president's address the society adjourned until 9:00 a. m., November 30, 1910.

NOVEMBER 30, 1910.

The following resolution, which was introduced by Dr. E. D. McKnight, was adopted by the society:

Resolved, That the Third District Medical Society, in its regular annual session at Stuttgart, Ark., November 30, 1910, recognizes the existence of hookworm disease in this councilor district, and hereby pledges its co-operation with the State Board of Health in the effort toward its eradication.

SCIENTIFIC PROGRAM.

By a vote of the society, the courtesies of the floor were tendered the visiting physicians.

Dr. W. W. Hippolite, of DeVall's Bluff, read a very interesting paper on "The Office

of the Red Blood Corpuscle." Discussed by Drs. E. D. McKnight and A. A. Hornor.

Dr. William Breathwit, of Pine Bluff, read a paper on "Some of the Pathological Aspects of the Tonsil," which elicited a very lengthy and interesting discussion. Discussed by Drs. Morgan Smith, E. A. Winkler, R. C. Dorr, E. D. McKnight, H. H. Rightor, S. A. Southall and T. J. Stout.

Dr. F. C. Robinson, of Hazen, reported two cases of purpural eclampsia treated with hyoscin, morphin and cactin (Abbott). Discussed by Drs. Morgan Smith, W. W. Hippolite, R. C. Dorr, S. A. Southall, Beatty, A. A. Hornor, E. D. McKnight, T. J. Stout, Roscoe, and E. A. Winkler.

Dr. E. D. McKnight, of Brinkley, read a paper on "Contagion and Quarantine." Discussed by Drs. F. C. Robinson, T. J. Stout, S. A. Southall, H. T. Rightor, A. A. Hornor and William Breathwit.

Dr. R. L. Saxon, of Little Rock, read a valuable paper on "Sterility." Discussed by Drs. E. D. McKnight, Morgan Smith, R. C. Dorr and A. A. Hornor.

Dr. Morgan Smith's lecture was deferred until 7:30 p. m., at the opera house, and an invitation extended to the entire public. The doctor gave a most interesting lecture on "Public Health and Sanitation," illustrating with stereopticon views, showing the hookworm and the hookworm patient, also views illustrating both good and bad sanitation, explaining in detail how the various diseases are propagated, especially the hookworm.

ELECTION OF OFFICERS.

Dr. L. H. Morphew, of Stuttgart, was nominated for president by Dr. S. A. Southall, and by a vote of the house the secretary cast the entire vote of the society for him, the president declaring him unanimously elected.

Dr. T. J. Stout was nominated for reelection to the office of secretary, and by consent of the house was elected by acclamation.

Dr. F. C. Robinson was nominated for the office of treasurer. By a vote of the house the secretary was instructed to cast the entire vote of the house for him. The president declared him unanimously elected.

After an invitation by Dr. McKnight, the society selected Brinkley for the next meeting place, November, 1911.

The society then adjourned.

The physicians of Arkansas County were most delightful hosts. Everything possible

was done for the pleasure and comfort of the visitors. It takes but a glance at their little city, with its modern civic improvements, its magnificent homes, two rice mills, factories and other resources, with the fine depot, to realize that the people of Stuttgart are not only a success as entertainers, but a success financially as well.

The reception at the princely home of Mr. and Mrs. William Price was indeed a rare pleasure for the visitors. The host and hostess will indeed be long remembered for their liberal hospitality.

After the lecture at the opera house by Dr. Morgan Smith on "Public Health and Sanitation," which was well attended and carefully received, we were conducted to a banquet, where we found the most gorgeous preparation in waiting for us, with more ladies in attendance than ever in the history of the society. Covers were laid for 250. The feast was all that could be desired by an epicure. The presence and beauty of the ladies lent a delightful charm to the hour, and every other feature was an added luxury. The toasts were numerous and appropriate. In fact, the hour of feast was one spent in a continuous spirit of levity.

All in all, the visit to the charming little city on the prairie will long be remembered by all who were so fortunate as to attend for the whole-souled, generous hospitality of its profession and citizens.

SIXTH DISTRICT MEDICAL SOCIETY.

PROGRAM OF MEETING HELD AT DE QUEEN,
DECEMBER 6, 1910.

Invocation.

President's Address—Dr. M. L. Norwood,
Lockesburg, Ark.

SECTION ON PRACTICE.

Dr. C. A. Archer, De Queen, chairman.

Chairman's Address—Dr. C. A. Archer.

Paper, "Malarial Hematuria"—Dr. H. W. Toland, Mineral Springs.

Paper (subject unannounced)—Dr. F. A. Lee, Mena.

"Something to Be Remembered by the General Practitioner"—Dr. G. E. Cannon, Hope.

"Malarial Fever"—Dr. O. O. Hammons,
De Queen.

"Hookworm Disease"—Dr. Morgan Smith,
Little Rock.

SECTION ON UNCLASSIFIED SUBJECTS.

Dr. J. H. Weaver, Hope, chairman.

Chairman's Address—Dr. J. H. Weaver.

"Influence of Rectal Diseases"—Dr. E. L. Beck, Texarkana.

"Tuberculosis"—Dr. Shibley, Booneville.

"Pathology of Carcinoma of the Uterus"—
Dr. Nettie Klein, Texarkana.

"Principles of Opsonic Therapy"—Dr. T. E. Fuller, Texarkana.

"Catarrhal Extraction"—Dr. R. H. T. Mann, Texarkana.

"The Nurse and the Doctor"—Miss Bessie Campbell, Superintendent of Texarkana Sanitarium, Texarkana.

SECTION ON SURGERY.

Dr. C. A. Smith, Texarkana, chairman.

Chairman's Address—Dr. C. A. Smith.

Paper (subject unannounced)—Dr. W. T. McCurry, Texarkana.

"Carcinoma of the Breast"—Dr. T. F. Kittrell, Texarkana.

"Splenectomy Following Gunshot Wound of the Abdomen"—Dr. Preston Hunt, Texarkana.

Paper (subject unannounced)—Dr. J. R. Dale, Texarkana.

A luncheon was served at 2:30 p. m.

County Societies.

SEBASTIAN COUNTY.—At the December meeting of Sebastian County Medical Society the following officers were elected for the ensuing year: J. C. Amis, M. D., president; S. J. Ozment, M. D., vice president; Clark Wood, M. D., secretary; C. W. Garrison, M. D., treasurer; St. Cloud Cooper, M. D., member of Board of Censors.

CLARK WOOD, *Secretary*.

LAWRENCE COUNTY.—The Lawrence County Medical Society will meet in regular session at Walnut Ridge, Ark., Wednesday, January 11, 1911, at 1:30 o'clock p. m. This will be the regular time for the election of officers, payment of state and county dues, and for any other business that may come before us.

YELL COUNTY.—The Yell County Medical Society met in Dardanelle Tuesday, December 13. Dr. Norborn H. Jackson exhibited a very

large gall-stone and read a paper on same. Dr. M. A. Worsham reported a case of puerperal peritonitis. The following officers were elected for the ensuing year: C. B. Linzy, president; Robert Cowger, vice president; J. R. Linzy, secretary and treasurer. The society adjourned to meet at Dardanelle on the second Tuesday in February, 1911.

A. H. McKENZIE, *Secretary*.

PHILLIPS COUNTY.—At the recent meeting of the Phillips County Medical Society, at Helena, the following officers were elected: Dr. L. Hall, of Turner, president; Dr. A. A. Hornor, of Helena, vice president; Dr. M. Fink, of Helena, secretary and treasurer; Dr. W. C. King and Dr. J. B. Ellis, of Helena, censors; Dr. J. W. Price, of Marvell, delegate to the Arkansas State Medical Society. The new officers will be installed on January 2, at which time the customary banquet will be held.

News Items.

The board of directors of the Barnard Free Skin and Cancer Hospital (St. Louis Skin and Cancer Hospital) has the honor to announce the completion of the new hospital, and to invite an inspection prior to its occupancy, on Tuesday, the 20th day of December, from 4:00 to 6:00 o'clock.

The Muskogee County Medical Society has started a library, with Dr. H. T. Ballantine librarian, in the Equity Building, Muskogee, Okla.

Personals.

Drs. R. C. Dorr, of Batesville, president of the State Society; F. T. Murphey, of Brinkley, secretary of the State Medical Society Examining Board, and M. L. Norwood, member of the State Examining Board, were in the city December 15, at a meeting of the Legislative Committee of the State Medical Society.

Dr. G. M. Duckworth has had to leave Pine Bluff on account of his health. He has given up his work entirely, and will spend the winter

in southern Texas. He developed tuberculosis last winter while taking postgraduate work in Philadelphia.

Drs. C. C. Price, Douglas and J. B. Crawford, Benton, have been appointed field inspectors for the eradication of hookworms by the State Board of Health.

Dr. William R. Bathurst was called to Philadelphia on the 10th by the serious illness of his mother, who died in a few hours after his arrival.

Publisher's Notice.

The editors of the Interstate Medical Journal, St. Louis, announce the publication of a symposium number on Syphilis for January. The list of articles reads as follows:

"The Influence of Syphilis on Civilization," Wm. Osler, M. D., Oxford University; "The Present Status of the 'Noguchi Test,'" Hidego Noguchi, M. D., New York; "On the Means of Finding the Spirochaete Pallida, with Special Reference to the India Ink Method" (from the laboratory of the Michael Reese Hospital), J. S. Cohn, M. D., Chicago; "The History and Methods of Application of Ehrlich's Dioxydiamido-arseno-benzol" (from the Royal Institute for Experimental Therapeutics), Lewis Hart Marks, M. D., Frankfort-on-Main; "Recent Progress in the Treatment of Syphilis," H. Hallopeau, M. D., Paris; "The Treatment of Syphilis with Ehrlich-Hata '606,'" Abr. L. Wolbarst, M. D., New York; "Syphilis of the Nervous System," Ernest Jones, M. D., Toronto; "Syphilis and Pulmonary Tuberculosis," Robert H. Babcock, M. D., Chicago; "Syphilis as a Cause of Pauperism," A. Ravogli, M. D., Cincinnati; "Giant Cells in Syphilis," John A. Fordyce, M. D., New York; Personal Observations with the Ehrlich-Hata Remedy, '606,'" B. C. Corbus, M. D., Chicago; "Syphilis and the Public," Isadore Dyer, M. D., New Orleans; "Sanitary Regulation of Prostitutes," Prince A. Morrow, M. D., New York. In addition to the above there will be four "collective abstracts" (critical reviews of recent literature in collective form) on (1) Ehrlich-Hata "606," (2) the Cerebrospinal Fluid in Syphilis and Parasyphilitic Diseases, (3) Serum Diagnosis of Syphilis, (4) Diagnosis of the Osseous Lesions of Syphilis by the X-ray.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
 Secretary—George H. Simmons, 535 Dearborn Ave., Chicago.
 Treasurer—Frank Billings, Chicago.
 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
 Judicial Council—William C. Woodward, Washington, D. C., chairman; Lawrence M. Shaw, Osceola, Neb.; Louis A. Hahn, Guthrie, Okla.; Charles S. Huffman, Columbus, Kan.; George K. Angle, Silver City, N. M.
 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912. Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kehler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
 Council on Health and Public Instruction—H. M. Bracken, Minneapolis; W. B. Cannon, Boston; H. B. Favill, Chicago; J. N. McCormack, Bowling Green, Ky.; W. C. Woodward, Washington, D. C.
 Director of the Scientific Exhibit—Frank B. Wynn, 311 Newton-Claypool Bldg., Indianapolis.

OFFICERS OF SECTIONS

Practice of Medicine—Chairman, Allen L. Jones, Buffalo; vice chairman, Charles L. Greene, St. Paul; secretary, Wilder Tileston, 308 Crown St., New Haven.
 Obstetrics and Diseases of Women—Chairman, Horace G. Wetherill, Denver; vice chairman, Fred J. Taussig, St. Louis; secretary, C. Jeff Mille, 404 Medical Bldg., New Orleans.
 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shambaugh, 100 State St., Chicago.
 Nervous and Mental Diseases—Chairman, W. A. Jones, Minneapolis; vice chairman, Herman H. Hoppe, Cincinnati; secretary, E. E. Southard, 37 Trowbridge St., Cambridge, Mass.
 Preventive Medicine and Public Health—Chairman, W. A. Evans, Chicago; vice chairman, Marshall Langton Price, Baltimore; secretary, C. Hampson Jones, 2529 St. Paul St., Baltimore.
 Stomatology—Chairman, S. L. McCurdy, Pittsburg, Pa.; vice chairman, Virgil Loeb, St. Louis; secretary, Eugene S. Tahot, 103 State St., Chicago.
 Diseases of Children—Chairman, S. M. Hamill, Philadelphia; vice chairman, Thomas D. Parke, Birmingham, Ala.; secretary, L. T. Royster, Norfolk, Va.
 Dermatology—Chairman, Charles J. White, Boston; vice chairman, Martin F. Engman, St. Louis; secretary, H. R. Varney, 604 Washington Arcade, Detroit.
 Pharmacology and Therapeutics—Chairman, Lawrence Litchfield, Pittsburg, Pa.; vice chairman, George B. Wallace, New York; secretary, M. I. Wilbert, Twenty-fifth and E Sts., N. W., Washington, D. C.
 Pathology and Physiology—Chairman, Yandell Henderson, New Haven, Conn.; secretary, Leo Loeb, 4109 Pine St., Philadelphia.
 Genito-Urinary Diseases—Chairman, W. T. Belfield, Chicago; vice chairman, James Pedersen, New York; secretary, Hugh H. Young, Professional Bldg., Baltimore.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frostville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothren, Walcott.
 Treasurer—J. S. Wood, Hot Springs.
 Secretary—Morgan Smith, Little Rock.
 Delegate to American Medical Association—J. F. Clegg, Siloam Springs.
 Alternate—R. H. Barry, Hot Springs.

OFFICERS OF SECTIONS.

Medicine—T. F. Kitrell, Texarkana, chairman; A. S. Buchanan, Prescott, secretary.
 Surgery—Henry Dickson, Paragould, chairman; Will Owen, Paragould, secretary.
 Obstetrics and Gynecology—S. J. Hesterly, Prescott, chairman; W. C. Dunaway, Little Rock, secretary.
 Pathology—M. D. Oden, Little Rock, chairman; William H. Deaderick, Helena, secretary.
 State of Medicine and Public Hygiene—St. Cloud Cooper, Fort Smith, chairman; Anderson Watkins, Little Rock, secretary.
 Dermatology and Syphilology—Samuel Steer, Hot Springs, chairman; M. F. Mount, Hot Springs, secretary.

COMMITTEES 1910-1911.

Committee on State Legislation and Public Policy—F. T. Murphy, chairman, Brinkley; M. L. Norwood, Locksburg; J. G. Eherle, Fort Smith.
 Committee on Scientific Work—B. L. Harrison, Little Rock, chairman; H. H. Neihuss, Wesson.
 Tuberculosis Committee—F. B. Young, Springdale, chairman; H. T. Thibault, Scott; A. J. Vance, Harrison.

COUNCILOR DISTRICTS AND COUNCILORS. 1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Cleburne, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmot. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Neihuss, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, A. H. McKenzie, Dardanelle. Term of office expires 1912.
 Ninth Councilor District—Baxter, Boone, Carroll, Marion, Newton, Searcy, Stone and Van Buren counties. Councilor, C. T. Canady, Marshall. Term of office expires 1911.
 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

THE JOURNAL

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PUBLISHED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. VII.

LITTLE ROCK, ARKANSAS, JANUARY, 1911.

No. 8

Original Articles.

QUININ ANESTHESIA.*

Henry Thibault, M. D., Scott.

HISTORY.—In 1907, when I decided to write a paper¹ for this society on quinin anesthesia, I made diligent search for any earlier literature on the subject, and could find none. There was no paper on the use of quinin as a local anesthetic indexed, and I rightly concluded that none had been published; but in August, 1908, after a paper on quinin anesthesia in tonsillectomy² had appeared in the Journal of the American Medical Association, I received a letter from Dr. V. M. Griswold, of Fredonia, New York, stating that he had discovered the anesthetic property of quinin nearly twelve years before I had, and that he had made a verbal report at a meeting of the Chautauqua County Medical Society in 1896. While he published no paper on the subject, his report is recorded in an account of that meeting, which was published in the Buffalo Medical Journal of August, 1896, page 32. He mentions only one salt of quinin—the hydrochlorid.

In January, 1908, Dr. John Wyeth, of New York, published a short article³ on the use of quinin for local anesthesia, reporting a case in which he had used it in the removal of an epithelioma of the lip with a cautery. In a personal letter to me, early in the same year, he called attention to the delayed union sometimes caused by the fibrinous exudate, which takes place when very strong solutions, 1 to 2 per cent, are injected into the tissues. Nearly two years later Drs. Hertzler, Brewster and

Rodgers⁴ described this same exudate and its hemostatic action. By their experiments they also showed that the solutions previously used were much stronger than was necessary, and that local anesthesia could be induced by injecting a solution of quinin and urea hydrochlorid containing .16 per cent of the salt by weight. They also showed that the use of physiological salt solution as a solvent greatly lessened its anesthetic power and diminished the amount of fibrinous exudate. Their paper has probably done more than any other to put the use of quinin as a local anesthetic on a rational basis. Unfortunately, they limited their experiments to the one salt, quinin and urea hydrochlorid, and there seems to be a general belief that this is the only salt of quinin capable of producing local anesthesia. As stated in my first paper, all the soluble salts of quinin are local anesthetics, and at least one of them seems to be superior to the hydrochlorid of quinin and urea, which is the only unofficial salt of quinin in general use.

COMPARISON OF THE THREE MOST SOLUBLE SALTS OF QUININ.—The following table is compiled from a series of ten double injections with each salt. The experiments were made on myself for the purpose of determining the relative value of the salts—quinin bisulphate, quinin hydrochlorid and quinin and urea hydrochlorid. Each experiment included an endermic and a hypodermic injection, and the following points were noted:

1. The time necessary to produce anesthesia.
2. The duration of the anesthesia.
3. The amount of pain produced by the injection.
4. The amount of reaction in the tissues.
5. The effect on healing.

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

6. Comparison of endermic and hypodermic injections. all made with the solutions of a strength of .25 per cent by weight. The figures given are averages of ten experiments.

The experiments recorded in this table were

averages of ten experiments.

Quinin Sulphate.

	ENDERMIC	HYPODERMIC	REACTION	EFFECT ON HEALING
Pain of injection.....	None.....	Nearly painless.....	None.....	None.....
Anesthesia at completion of injection.....	Complete.....	None.....	".....	".....
After 5 minutes.....	".....	Beginning.....	".....	".....
After 10 minutes.....	".....	Complete.....	".....	".....
After 15 minutes.....	".....	".....	".....	".....
After 20 minutes.....	".....	".....	".....	".....
After 25 minutes.....	".....	".....	".....	".....
After 30 minutes.....	".....	".....	".....	".....
After 35 minutes.....	".....	".....	".....	".....
After 40 minutes.....	".....	".....	".....	".....
After 45 minutes.....	".....	".....	".....	".....
After 1 hour.....	".....	".....	".....	".....
After 1 hour, 25 minutes.....	Diminished in area.....	".....	".....	".....
After 2 hours.....	Nearly all gone.....	Greatly diminished in area.....	".....	".....
After 24 hours.....	".....	None.....	".....	".....
After 48 hours.....	".....	".....	".....	".....
After 96 hours.....	".....	".....	".....	".....

Quinin Hydrochlorid.

	ENDERMIC	HYPODERMIC	REACTION	EFFECT ON HEALING
Pain of injection.....	Practically none.....	Slight.....	None.....	None.....
Anesthesia at completion of injection.....	Complete in 3 minutes.....	".....	".....	".....
After 5 minutes.....	Complete.....	None.....	".....	".....
After 10 minutes.....	".....	Beginning.....	".....	".....
After 15 minutes.....	".....	Complete.....	".....	".....
After 20 minutes.....	".....	".....	".....	".....
After 25 minutes.....	".....	".....	".....	".....
After 30 minutes.....	Diminished.....	".....	".....	".....
After 35 minutes.....	Gone.....	".....	".....	".....
After 40 minutes.....	None.....	Diminished.....	".....	".....
After 45 minutes.....	".....	None.....	".....	".....
After 1 hour.....	".....	".....	".....	".....
After 1 hour, 25 minutes.....	".....	".....	".....	".....
After 24 hours.....	".....	".....	".....	".....
After 48 hours.....	".....	".....	".....	".....
After 96 hours.....	".....	".....	".....	".....

Quinin and Urea Hydrochlorid.

	ENDERMIC	HYPODERMIC	REACTION	EFFECT ON HEALING
Pain of injection.....	Practically none.....	Slight, but greater than other.....	None.....	None.....
Anesthesia at completion of injection.....	Complete in 4 min.....	None.....	".....	".....
After 5 minutes.....	Complete.....	".....	".....	".....
After 10 minutes.....	".....	".....	".....	".....
After 15 minutes.....	".....	Nearly complete.....	".....	".....
After 20 minutes.....	".....	Complete.....	".....	".....
After 25 minutes.....	".....	".....	".....	".....
After 30 minutes.....	Diminished.....	".....	".....	".....
After 35 minutes.....	None.....	".....	".....	".....
After 40 minutes.....	".....	Diminished.....	".....	".....
After 45 minutes.....	".....	None.....	".....	".....
After 1 hour.....	".....	".....	".....	".....
After 1 hour, 25 minutes.....	".....	".....	".....	".....
After 2 hours.....	".....	".....	".....	".....
After 24 hours.....	".....	".....	".....	".....
After 48 hours.....	".....	".....	".....	".....
After 96 hours.....	".....	".....	".....	".....

From the table it is seen that there is no pain caused by the injection endermatically of the bisulphate, and almost none by the other salts. Hypodermatically, all produced slight pain. Endermically, anesthesia was immediate with the bisulphate, complete in three minutes with the hydrochlorid, and complete in four minutes with the bimuriate of quinin and urea. From these endermic injections the average duration of the anesthesia was one hour and twenty-five minutes to two hours with the bisulphate, and thirty to thirty-five minutes with the other two salts.

With the hypodermic injections there was very slight pain with all the salts, anesthesia was complete in ten minutes with the bisulphate, and in fifteen minutes with the hydrochlorid, and in from fifteen to twenty minutes with the bimuriate of quinin and urea. It lasted two hours with the bisulphate, and from forty to forty-five minutes with each of the other two salts.

There was no reaction following any of these injections. Compared with incisions where no injections were made, the healing was as rapid where these weak solutions of quinin were used as where no injections of any kind were used.

To determine minimum strength of each solution that would produce anesthesia, gradual dilutions were tested. The hydrochlorid and the bimuriate of quinin and urea lose their anesthetic power with dilution below .16 per cent. The bisulphate retains its power in dilutions of .10 per cent, and is uncertain when diluted still more.

To determine the strength of solutions necessary to produce reactions in the tissues and the fibrinous exudate, solutions gradually increasing in strength were used. All of the salts gave some reaction (redness and exudate) in solutions above .5 per cent. The exudate was most abundant with the bimuriate of quinin and urea, and the redness lasted longest after injections of the hydrochlorid. Solutions of the bisulphate above 2 per cent sometimes produce ischemia, which may last several days.

In strong solutions, all the salts produced anesthesia, lasting from several days to a week, according to their strength. The anesthesia produced by the bisulphate always lasted longer than that produced by solutions of the same strength of the salts.

Because there seemed to be a widespread belief that the urea, in solutions of quinin and urea hydrochlorid, was the cause of the

local anesthesia, I made experiments on myself with solutions of urea varying in strength from .25 to 2 per cent. Urea produces no local anesthesia, and its injection into the tissues is exceedingly painful. I made only four experiments with this salt. The pain and soreness following the injections were so great that I abandoned it as being worse than useless.

OTHER METHODS OF PRODUCING ANESTHESIA WITH QUININ.—Quinin in solutions of .15 to 20 per cent will produce local anesthesia when applied to normal mucous membranes, and it has been used in this way to make cystoscopic and proctoscopic examinations painless. It has also been used in the nose by packing the nares with gauze saturated with these strong solutions, and has produced good anesthesia in about thirty minutes. I have found that gelatine suppositories made up with a 15 per cent solution of quinin bisulphate or bimuriate of quinin and urea will give immediate relief from the pain of anal fissure and of ulcerations of the lower rectum and anus. The salt may also be placed in the center of cocoa butter suppositories, where it acts well, but less promptly. Quinin is the only nonpoisonous drug that I know of that will relieve the pain of fissured and excoriated nipples.

Quinin will produce anesthesia of the conjunctiva and cornea when strong solutions of it are dropped into the eye, but it is difficult to retain it there, and its slowness of action on the normal mucous membranes is a serious drawback to its use in ophthalmic surgery. However, it will stop the pain of corneal ulcer and of gonorrheal ophthalmia almost immediately.

Even comparatively weak solutions applied to denuded and ulcerated surfaces anesthetize them in a few minutes. In burns that destroy the superficial layers of the skin, the relief produced by dressing them with gauze saturated with a quinin solution is almost magical in its promptness and completeness.

As I have reported elsewhere⁵, a sterile .25 per cent solution of quinin warmed and poured into the abdomen will render the parietal peritoneum insensible to pain and make it possible to handle the abdominal viscera with impunity. The solution produces no reaction in the peritoneum, and, as far as I can judge from the limited number of cases in which I have used it, is absolutely harmless. This fact greatly increases its range of usefulness, and is a great boon to those patients who need an operation extending into the ab-

domen, and who, for some physical reason, cannot safely take a general anesthetic. I first used quinin inside the abdomen of a human subject March 10, 1910. The patient was a negress, sixty-four years of age, with inoperable cancer of the uterus and rectum, cardiac dilatation, arteriosclerosis, parenchymatous nephritis, and a strangulated right inguinal hernia. After the inguinal canal had been opened under quinin anesthesia, the parietal peritoneum was found quite sensitive. About two drachms of the warm .25 per cent quinin solution was poured into the canal, and in a few minutes the operation was resumed. Although numerous adhesions were broken up and the peritoneum handled freely, there was no pain. There was no reaction in the peritoneum, and nothing in the subsequent course of the case to indicate that the quinin had done harm.

MODUS OPERANDI.—For clean operations, where primary union is desired, the following procedure is probably the best.

A sterile solution composed of—

Quinin bisulphatis, gr. iv ss.

Aquæ destilatæ et sterilatæ, fl. oz. iv.

This solution is sterilized by boiling, and is used at body temperature. It is first injected endermically into the substance of the skin, along the line of the proposed incision. Very little of the solution need be used, and if the fluid is kept a little in advance of the needle no pain is caused by the injection. Next, the subcutaneous and deeper tissues are moderately infiltrated with the solution, not enough being used to distend them. The anesthesia is immediate and the operation may begin at once. If the first injection (the endermic) be omitted, more fluid must be used, and there will be an interval of from fifteen to twenty minutes before the skin is completely anesthetized. If the abdomen or thorax is to be opened, a little of the warmed solution should be poured into the wound as soon as the parietal peritoneum or pleura is exposed, and in a few minutes the serous membrane will be anesthetized. If extensive explorations are to be made in either of these cavities, it is simply necessary to allow a little of the solution to precede the exploring hand or instrument.

In operations on inflamed tissues, as opening abscesses, and in operations where secondary hemorrhage is liable to occur, as removing tonsils, hypertrophied turbinated bones, nasal growths and piles, the following solution should be used:

Quinin et ureæ bihydrochloridi, gr. ix.

Aquæ destilatæ et sterilizatæ, fl. oz. i.

Sig.—Boil half an hour after mixing.

This solution produces profound anesthesia, which may last a week. It also produces a fibrinous exudate into the tissues, which mechanically constricts the divided vessels and thus prevents secondary hemorrhage. The exudate causes a puffiness of the tissues and mechanical eversion of the lips of the wound which may retard healing for several days. The prolonged anesthesia produced by this solution eliminates the pain that so often follows this class of operations.

CONCLUSIONS.—1. Quinin is the most efficient local anesthetic we have. A 1 per cent solution of the bisulphate will produce local anesthesia that will last from ten to thirty minutes.

2. Anesthesia produced by quinin lasts long enough to allow nearly any ordinary operation to be completed without repeating the injections. The anesthesia lasts from thirty minutes to several days, according to the strength of the solution and the amount used.

3. There is no other local anesthetic of anything like equal efficiency that we can call safe. Since sixty grains of the bisulphate can be called a safe dose, as far as any danger to the life of the patient is concerned, and since a 1 per cent solution will produce local anesthesia, over a gallon of this solution can be injected before the maximum dose of sixty grains is exceeded. Its safety is also increased over that of most other local anesthetics by the fact that the solutions are stable and can be sterilized by boiling.

4. It is the least expensive of the local anesthetics. An ounce of the bisulphate of quinin will make 400 fluid ounces of a .25 per cent solution, at a cost of about thirty cents.

5. It appears that in solutions of .25 per cent or less that quinin can be used in the abdomen without danger.

Bibliography.

¹Thibault, Journal Arkansas Medical Society, September 15, 1907.

²E. J. Brown, Journal American Medical Association, August 8, 1908.

³John A. Wyeth, Polyclinic Journal, January, 1908.

⁴Hertzler, Brewster & Rodgers, Journal American Medical Association, October 23, 1909.

⁵Thibault, Journal American Medical Association, April 23, 1910.

⁶Hertzler, Brewster & Rodgers, Journal American Medical Association, October 23, 1909.

DISCUSSION.

Dr. Thompson (Hot Springs)—I am one who appreciates the paper. I have enjoyed it. I was present when he read his first paper, and I accepted it as true, and decided to put it into practice. Yet I am ever ready to make discounts for reports that we hear. On one occasion I was at Memphis, soon after Gath had made his discovery of injections producing anesthesia by pressure. Many of you gentlemen were present at the time, and we had a gentleman come down here to tell us of his success with the injection. He told us a remarkable story of a limited number of injections that he made. The house looked on in admiration, and nothing was said. He was delighted at his success. The next year he came and said he wanted to make an additional report of his success. He declared that he could remove piles with as little pain as to trim a toenail. Someone asked me to speak. I said, "It is clinical experience that you want, and I am glad to give mine." I said, "I had a nervous patient, a very nervous patient, and so I decided to use your injection. I told her if she would come to my office I would operate for piles with as little pain as trimming toenails. She came. It is natural for a doctor not to follow in the old routine, but simply to try and advance a little. If we had a remedy that would cure all diseases, why, we would be anxious to advance and see if we could not get a remedy to find out what produced the disease. So I was anxious to advance a little. I was so anxious I would not cause pain at all that I decided to use a little cocaine. I filled the hypodermic syringe with a little cocaine, and I touched it to the piles. I didn't break the skin. I never heard such screaming in my life. She destroyed part of my office furniture; she kicked over the table. My neighboring doctors ran in to my assistance. The policeman we employed ran up and said, 'What is the matter?' Someone said, 'Nothing; Thompson is operating for piles.'" When I made that statement the gentleman laughed, and when I got through he got up and said, "My dear sirs, I thank Dr. Thompson for making that point." "I will ask you one question, sir. Did you operate on any nervous patient? If so, how often did you give chloroform?" Well, he shrugged his shoulders a few minutes, and he admitted that he

gave chloroform nearly half the time. He apologized; followed me to the depot to apologize. I don't believe that about Dr. Thibault's paper. I believe the paper, for I have tried it. I tried it in a very limited number of cases, and want to tell you of those limited number. I operated for piles again and again, and have never had any pain where they would let me make the injection. It has been a success every time, and I have been delighted with it.

Dr. Cox (Helena)—I enjoyed the paper very much. My experience has been very limited in the use of quinin as a local anesthetic. It had some effect, but I didn't have perfect technic, therefore am not able to make an intelligent report. I have had a good deal of experience with hot water and a very weak solution of morphin, in selected cases, and it covers the field. While I think the doctor's paper comes in place, personally I hardly feel the need of it.

Dr. Thibault—I have just one or two remarks to make. The first is that there will never be discovered anywhere a local anesthetic of any kind that can always take the place of the general anesthetic.

In regard to the pressure anesthesia, you gentlemen who heard my first paper will remember that I made a comparison, a careful comparison, between the use of quinin and the use of hot water. When I mentioned the fact that quinin produced local anesthesia, everybody I mentioned it to said, "You are going against the results of pressure, hot water." And that impression was so strong that, if you remember, at that meeting Dr. Jelks, of Memphis, without hearing my paper and without hearing all I said, got up on the floor and condemned it straight out, from the fact that if I got an anesthesia it was due to pressure. That was after I had made an injection on each side of the umbilicus, one with hot water and the other with quinin solution, and the anesthesia lasted about eleven minutes under the hot water injection and six days where I had used the quinin solution. You can get anesthesia with hot water, but it is not lasting and it is simply due to pressure. You can get anesthesia with quinin solution without producing any pressure whatever, and it lasts exactly in proportion to the amount of quinin that you put into the tissues.

PREVENTION OF PELVIC ADHESIONS BY AMPUTATION OF THE OMENTUM.*

W. C. Dunaway, M. D., Little Rock.

It has been recently stated by an eminent authority that the treatment of peritonitis continues to occupy the center of the stage in surgical endeavor. I would say that if this be true, the subject of prevention of adhesions following laparotomy would justly stand as a close second in point of importance. The problem of the prevention of adhesions has not been solved, although some very ingenious methods have been employed. However, for the purpose of this discussion it will be entirely proper to ignore any special reference to them.

My first impulse was to report a few unusual cases of omental adhesions following laparotomy, and the apparent good results following high amputation of the omentum, but when I began to search for authority in the literature I found, with but few exceptions, that we are taught to save as much of the omentum as possible.

I accordingly wrote to Prof. Joseph Bloodgood, asking him the following questions, viz:

First. Does amputation of the omentum tend to produce new growth, more than operative methods, upon other peritoneal structures?

His answer was in the negative in his opinion, but made reference to the possibility of thrombosis and embolism.

Second. What authority have we for or against amputation of the omentum primarily, with the object of ultimately preventing troublesome adhesions following laparotomy?

His answer was that he knew of no good reason why it should not be amputated, but that his practice was to save as much of it as possible.

Third. Do you not think it justifiable, in view of the frequent occurrence of omental adhesions and their after-complicating consequences, to amputate the omentum as a routine?

His answer was that while adhesions of a serious nature were frequent, he did not think it justifiable to amputate as a routine,

and by reference to his card index could find no literature bearing directly upon my questions.

I then searched freely the text-books for the physiological function of the omentum and could find no degree of satisfaction.

Abstracts by the J. A. M. A., 1906, of Dickinson's and Schiefferdecker's researches upon the physiological functions of the omentum were the most valuable contributions I could get. Their summaries agree with others of a similar nature, and refer to the active protection of the omentum against pathologic conditions, absorption of fluids, encapsulation of solid particles, storage of blood in high arterial tension, relief of local congestion by venous anastomosis through adhesions, walling off infected areas, absorption of pus and exudates through leukocytic action.

They observe that nondevelopment and loss of omental substance lower general resistance to peritoneal invasion. Some writers hint at a possible internal secretion of the omentum which would be lost to the patients. The latter subject, by the way, offers a highly important field for original research.

Potter's observations, abstracted by the J. A. M. A. for 1908, advocates saving every portion of the omentum not actually diseased, and says that the omentum preserves circulatory equilibrium, by acting as a temporary reservoir. Howard Kelly, Operative Gynecology, advocates the removal of all or any part of the omentum when dealing with troublesome adhesions and does not consider that the patient sustains increased dangers. Authorities could be indefinitely quoted who favor amputating the omentum under conditions of complicating adhesions, but I have found none who even suggest its amputation to prevent adhesions. They all seem to follow the teaching that the omentum should be saved, except in extreme cases, and sacrifice should come only at a second laparotomy.

I am of the opinion that this teaching is about as erroneous as the opinions entertained by many some years ago, that the appendix should not be molested, because the Creator made nothing in vain, and that it was placed in the right lower quadrant for a beneficent purpose.

Only one question is offered for consideration here, and that is as to the propriety of amputating the omentum when it is abnor-

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

mally long in primary laparotomy. My belief is based largely upon practical experience, but of course to some extent upon theory. There is a marked tendency for the omentum to adhere to surrounding structures, following laparotomy, even for simple, noninflammatory conditions. This constant condition of distressing adhesions long ago suggested to me the propriety of amputating suitable portions of the omentum as a routine in primary laparotomy. I have failed to find authoritative data as to the supposed deleterious effects upon the body functions following loss of part or all of the omental substance. Every surgeon of experience has felt himself called upon to amputate varying parts of the omentum where adhesions were great and where speed and efficiency were interfered with or structural changes suggested dangerous pathology. I have not heard of any serious consequences following omental amputation, but to the contrary the best of results have followed, as expressed in the comfort and health of the patient. It is reasonable to my mind that if the omentum, as an organ, with its supposed, or assumed, special function, can be dispensed with, after it has invalidated a patient following laparotomy, it is certainly more rational that the patient can afford its sacrifice at the time of primary laparotomy. I am sure I have seen many patients who attributed their invalidism to the shortcomings of the surgeon, when in fact the true cause could be found in an abnormally constructed and adhered omentum. A so-called unsuccessful operation, an invalid, a humiliated surgeon, where everything should have been serene.

The only experimental work I have seen appeared in the April number of *Surgery, Gynecology and Obstetrics*. These experiments were done by Neuhof and Weiner of New York, upon rabbits, with special reference to omental adhesions. The results of their work proved that the edge of the omentum adheres in all cases to the laparotomy wound, to any traumatized or abraded portion of the visceral or parietal peritoneum. Amputation of the edge of the omentum proved that the amputated surface possessed very slight or no tendency to adhere to other parts with which it came in contact. One of the most important observations made by them was that when the omental

edge became attached to points beyond the normal site, the stomach especially, followed its excision. This point is of special value to the abdominal surgeon, since these adhesions are so often attended by pains and functional stomach troubles produced by the pull of an adherent omentum in the pelvis or elsewhere. They also noted that the experiment animals subjected to amputation of the omental edge exhibited evidences of emaciation and apathy in five to eight days; but they were unable to determine whether the results were accidental or associated with loss of omental substance. Careful postmortem examinations failed to reveal any cause for the changed condition of the animals; an experience suggestive of loss of some internal secretion. In severe induced infections the omental surface became broadly attached in the course of their experiments; a point which has been observed in surgical practice.

Some omenta are enormously lengthened, thinned out, and appear like a frazzled wet cloth, with tendency to roll upon themselves; others show a marked state of hypertrophy—lipoma like; still others are abnormally short and assume a fibrous appearance with limited blood supply. These omenta are usually carefully arranged over the viscera and field of operation and in a few weeks or months adhesions form in every nook and corner of the pelvis, and every stump and operated surface and abraded area will be seized by a finger of omental edge, and then the fun begins and continues unabated till the same or another surgeon gets into that abdomen again. If the omentum is just long enough to allow all the slack to be taken up, the pull upon the stomach and colon will result in abnormal function of these organs and the variable consequences of innutrition. The last state of the patient worse than the first—all because of this benevolent and protective organ called the omentum.

These are only a few facts about this important organ, but these, together with the many others, first suggested to me the feasibility of primarily amputating in all cases the long omentum, and thereby taking the first step in preventing a condition of invalidism and the unpleasant necessity of a second laparotomy.

It is granted, of course, that the burden of proof rests with the physiologist. How-

ever, this question, like surgery of the thyroid, gall bladder, appendix and other debatable questions in surgery, will probably be settled by the surgeon himself before the physiologist gets an opportunity to pass judgment in the light of science. I believe it is generally understood that the improved after-cure of laparotomized patients, in permitting them to move around early in bed and disregarding the time-honored heavy pads and binders, has made a notable reduction in adhesions. Unless it can be shown on better evidence than we at present possess that the omentum should not receive the treatment here suggested, I believe that routine amputation will mark an improvement over existing conditions.

DISCUSSION.

Dr. L. Kirby (Harrison)—I am very much interested in this paper, but I want to say, with the poet, "One swallow does not make a summer." Now to my one case. Dr. Thompson of Hot Springs had a patient whom some other physician from Texas operated on, whose name I don't remember, for the removal of the right ovary and tube and perhaps some tumor connected with them. The doctor removed the omentum in order to prevent adhesions, and afterward I had to remove the other ovary and its appendages. In doing so I found that the intestines had adhered to the wound for something like one and a half inches and the intestines also adhered to each other for several inches. I found the patient with the clinical symptoms of the same stomach trouble such as Dr. Dunaway speaks of, although there was no omentum to cause any pull, and she had not had that particular set of symptoms before the operation. I think that the adhesions of the parts were much worse than they would have been if the omentum had been left. Therefore, counting my one swallow, I think it was not advisable to remove the omentum. In one case I found a man with appendicitis, and also thought that he had an abscess on the left side, where I found a lump. I supposed it was a long appendix reaching across, and had an abscess on the left side. I cut in and found a diseased appendix and removed that. On the left side I found that the lump was caused by practically the whole of the omentum attached around a cancerous growth of the sigmoid flexure of

the colon, which shows the effort of nature to throw the omentum around the diseased or abraded parts, as the doctor states in his paper.

If nature gives us that lesson, I think we should profit by it, and, therefore, save the omentum. In another instance I had a man who had appendicitis, and operated upon him and found that he also had a cancer extending from the appendix to the cecum and that notwithstanding the omentum had closed in around the diseased parts, there was no omentum anywhere save in the region where it attached itself to this cancerous mass. Without removing any of the parts with the omentum to protect him, he lived a little over one year. It shows the effort of nature to make use of the omentum for conserving and preserving the parts. Therefore, leave the omentum.

Dr. Thibault (Scott)—I simply want to make a suggestion. I had the pleasure yesterday of going through a shop where a great deal of modern machinery is made, and I was shown sketches of various machines and various improvements, and all the improvements were in the nature of simplification. I believe the ambition of the surgeon today is to improve the mechanism of the human machine, and in doing so, like the designs of other machines the scientific and mechanical engineers are improving every day, his endeavor is to eliminate as far as possible all the working parts. I believe when he accomplishes his ambition that the human machine will consist of an improved form of locomotion, with simple disk transmission and a brain in front to run it.

Dr. Dorr (Batesville)—So far as the underlying principle is concerned, I do not think there is any difference in treating healthy omentum from treating any other healthy tissue in the abdominal cavity. I think if you go into the abdomen to remove diseased tissue you should leave all healthy tissue there. I do not favor this going into the abdomen and taking out tissue not diseased. I do not think it is ever indicated, any more than it would be indicated to take off two joints of a finger when only one joint was affected. I think the same rule should apply to the organs in the pelvic cavity. If they are not diseased, leave them alone. If they are diseased, they should be operated. I think the same rule applies in operating in the abdominal cav-

ity as on other parts of the body. If the organs are not diseased, leave them alone. I should therefore be against the amputation of any healthy part of any organ in the abdominal cavity, as much as I should be opposed to the removal of an extra joint of the finger.

Dr. Sweatland (Little Rock)—I enjoyed the doctor's paper very much. It is theoretical. One practical point the doctor brought out, I think, was with reference to the drawing of the stomach down, stretching the stomach and pulling it along down, and perhaps pulling the liver and all of those organs that the omentum or peritoneum is attached to. There is one thing about the omentum: It is quite elastic, and it is easy to accommodate itself to stretching. It is not necessary for it to pull the stomach down when it is adhered somewhere down in the corner of the belly. I do not see any good reason for amputating the omentum unless you first do an operation on the gall bladder, removing the gall bladder, and removing the appendix and removing the ovaries and uterus, if a female, and removing everything that needs protection when you take out the omentum.

Dr. H. S. Crossen (St. Louis)—I am very much interested in this subject. We would all like to get some means of preventing adhesions. As to the doctor's idea of removing the omentum, I am still of the old school. We always thought the omentum was for protection in the abdomen. It is called the policeman of the abdomen. I should as soon think of removing the police department of a city to prevent fighting as of removing the omentum to prevent adhesions, unless there were some disease of the omentum. The omentum is there for the very purpose of surrounding any point of irritation and preventing serious spread of infection. This is accomplished by means of adhesions and the omentum is designed especially for forming these adhesions most effectively and with the least resulting disturbance. Adhesions of the intestines of sufficient extent to give the same amount of protection are far more likely to be followed by serious consequences—and if the omentum is removed there remain only the intestines to form the protective adhesions.

In regard to omental adhesions, an important point is that the troublesome adhesions

are those in which there is the element of marked tension. A practical deduction from this is that in closing the abdomen the omentum should not be pulled far down into the pelvis away from its normal location, as is the practice with some operators. Adhesion in this abnormal location is very likely to produce tension and trouble. In the toilet of the peritoneal cavity before closing, the omentum should be spread out toward the pelvis, but only as far as it will go without tension. Another important point in this connection is that when part of the omentum has to be sacrificed on account of disease, or if for any other reason it is too short to give the usual protection, the operated area in the pelvis should be covered largely with the cecum and sigmoid in order to shut out the small intestines. The dangerous intestinal adhesions are those involving the coils of the small intestine. Postoperative adhesions of the large intestine rarely give trouble. When the coils of the small intestine are lifted out of the pelvis the cecum and sigmoid fall together over the operated area, shutting out the small intestine to a large extent. This I consider an important point in the prevention of dangerous post-operative adhesions.

Dr. Dunaway—The main point in the paper, as I expected, was entirely overlooked by the majority of speakers. I am glad to have heard all of their objections, particularly my friend Dr. Kirby. Dr. Kirby said exactly the very thing I expected him to say. And it was about in line with my friend Dr. Sweatland also. Neither one of these gentlemen (I believe I will include my friend Dr. Dorr in that) has struck the issue raised in the paper. I certainly would not remove the omentum any quicker than I would an appendix without some cause. Now, that is the meat in the cocoanut. I say there is a cause for removing that long omentum. If a toilet is made, as Dr. Crossen suggests, of course that is beneficial. It will perhaps be several days before that omentum will go down into the pelvis and adhesions would necessarily be minimized. But I see no good reason for leaving that omentum, long and ragged. All of you have seen omenta that were long and frazzled out. If they have a function I dare say it is very much lowered and interfered with, whatever that function may be. If it is a

policeman, it certainly would be a very weak one—one that would likely get knocked down or run over by the first attack. Now, of course this is theoretical. I am discussing it from that point of view. But if, as we have all done, we have to remove that omentum six months or a year afterward, and the patient is an invalid from those adhesions, why not remove it before it comes to that point? I could, if I had time, relate at least half a dozen cases during the past year where the abdomen had to be opened and the omentum removed for invalidism, and the patients are doing well, except those who died from other causes. Now, then, it is reasonable to my mind that if that omentum had been removed in the primary operation, we would not see that ruthless taking off of the omentum up to the colon or to variable extent; but primarily resect a portion of it and keep it at least out of the pelvis. I believe that time will prove that it is a good procedure and at least a point worth thinking of in doing laparotomies, and until I am convinced to the contrary by some point that I don't know of yet, I believe I shall continue to believe that it is a good thing to do.

ERYTHROMELALGIA.*

James H. Chesnutt, M. D., Hot Springs.

Weir Mitchell in 1872 wrote an article on "A Rare Vasomotor Neurosis of the Extremities." In 1878, 1893 and 1899, he added new reports. Since then there have been reports from various parts of the world, until at present forty or fifty cases have been reported, some of which were typical, while others had some of the features of erythromelalgia, and some of the features of Raynaud's disease or allied conditions.

Mitchell defined erythromelalgia as "a chronic disease in which a part or parts of the body, usually one or more of the extremities, suffer with pain, flushing or local fever, made much worse if the parts hang down."

The disease occurs far more frequently in men than in women. Predisposing causes are puberty, menstrual disturbances, rheumatism, gonorrhea, and various constitutional disturbances. Exciting causes are overexertion and violent exercise.

The etiology is unknown. The pathology is obscure. Osler says that Mitchell speaks of it as "a painful nerve-end neuritis." Some regard it as a neurosis with primary involvement of the vasodilators; others speak of it as a disease of the vasomotor centers; while still others believe it to be a spinal disease of the posterior and lateral gray matter. Osler says that the groups appear: One in which the area of a certain nerve on a distal portion of a limb is involved like a neuritis without the signs; the other in which the whole distal portion of the limb is affected, without any demonstrable lesion, arterial, neurotic, spinal or cerebral.

Symptoms.—Pain is the first symptom, coming suddenly or following general disability or overexertion. The seat of the pain is in the feet or tendons, particularly on the ball of the great toe and heel or in the proximal portion of the limbs. Soon it exhibits a redness, most marked on the terminal phalanges of the toes or fingers. This is in the beginning; later the whole part becomes reddened or may be from the start. The patient whose history is to be reported had redness of the entire feet from the outset, but in the hands the disease began at the ends of the fingers.

The patient complains of most intense burning; the temperature of the skin is objectively raised; the vessels pulsate; at times the feet sweat; and nodules may appear on the affected parts. Sensation is little changed.

The swelling and pains are of varying intensity. The latter are at first transitory, coming on in the evening and after exercise, but later may become stationary or remittent. The pain is seldom mild, but usually so severe as to cause torture. In my case it was the burning that tortured the patient, though his feet were sensitive to pressure.

It is thus seen that pain and burning, redness and swelling are the salient features. Elevation and rest of the extremity lessen the symptoms; standing and walking increase them; the swelling is greatest after exercise. The redness varies from a deep pink to a purple. The colored plate in "Osler's Modern Medicine" shows beautifully the bright pink.

Other symptoms are headache, dizziness and palpitation of the heart. Attacks of syncope and general weakness have been observed. Atrophy of the skin, changes in the nails, thickening and swelling of the bones have been noted.

The condition does not yield readily to

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

treatment. Osler report a patient who recovered without it. Those interested may look up the treatment.

For the above account credit is due to Osler in volume VI of "Osler's Modern Medicine" and to volume II of H. Oppenheim's "Lehrbuch der Nervenkrankheiten." Both accounts are good; that by Osler is fine, and is written in his inimitable style.

As an afterword I may add that Osler's states that erythromelalgia may be confused with several conditions. Raynaud's, which it simulates, begins with ischæmia, the affected parts are bloodless and white, the pain comes and goes, posture has little or no effect on the condition; when well developed, Raynaud's is unaffected by seasons. Besides there may be anesthesia, low temperature of the affected parts or gangrene.

Cervical rib, locomotor ataxia and multiple sclerosis may produce vasomotor and trophic disturbances similar to erythromelalgia.

Endarteritis obliterans simulates it in pain, redness and swelling, but there are present arterial changes, tendency to gangrene, asphyxia, great variability of pain and symptoms of intermittent condition.

History.—Male, white, age forty-seven. Grocer. Complaint: Redness, swelling and burning of the feet; aching below the knees.

Personal History.—General health has always been good. No infectious disease except measles. Appetite and digestion good. Occasionally he eructates a mouthful of food after breakfast. Bowels are regular. No history of genitourinary disorders, nor did subsequent examination bring out anything suggestive of them.

Present Illness.—In giving the present illness, shall give in order the things of which the patient complained, although many of them came after the onset of the disease and may bear little relation to it.

Head.—Patient has been subject to headaches for ten or twelve years, mostly frontal in character. There has been some disturbance of vision, necessitating several changes of glasses. The sight is dim, and his eyes burn and water frequently.

Gastrointestinal.—Sometimes brings up a mouthful of food after breakfast. Just before coming to Hot Springs he suffered from diarrhea for a few days, but this he thought might have been due to some indiscretion in diet. There is no diarrhea now; his bowels are perfectly regular.

During the past winter he has fallen asleep with the greatest ease. He could give no explanation of this, but it had never troubled him before, nor does it bother him at present. It is mentioned for sake of completeness. Another complaint is that for several years he has had a pain in the lumbar region, extending down the thigh to the heel. This pain comes and goes, but scarcely a day passes in which he is not aware of it.

There was one other complaint of which mention must be made. The patient said that his knees were stiff. For twelve or fifteen years he had every day, between two and three o'clock in the afternoon, an aching pain below the knees. This pain, he said, "was like the toothache," and the time for its appearance was as regular as the clock. Either accompanying the pain or following it, he had chilly sensations between the shoulders, and later warm flashes over the body.

The symptoms, however, for which he sought relief, aside from the aching about the knees, was the condition of his feet and hands, particularly the former. The patient was a grocer, accustomed to hard labor, long hours, and exposure of his feet to cold and damp.

Twenty years ago when the patient was twenty-seven years old, young and active, he began to be troubled with burning, redness and swelling of the feet. He attributed it to long standing on his feet. The attacks began in the summer time. The development was slow, inasmuch as in the first two or three winters he was comparatively free from the burning, though he was on his feet as much as ever. The redness persisted from the onset, and the patient informed me on his departure that in twenty years his feet had not been as free from redness. As the development proceeded the symptoms became more severe. The suffering in the past ten years has been most intense. In the summer time he is never free from the burning sensation, redness or swelling. This state is what may be termed the chronic state, to which were added acute attacks of great severity. These latter came on several times weekly, as often as four or five times, always as often as once a week.

The picture of an acute attack as he gave it was this: After having been on his feet for a few hours, the burning present before began to be more intense. His feet became redder and more swollen, so that the only relief he could get was by going to bed, elevating the limbs and applying cold compresses. To use his own words: "My feet felt as if

they were in scalding hot water." When asked how long the intense burning persisted, he replied, "Sometimes as long as twelve or fifteen hours, usually three or four." Experience has taught him that following a severe acute attack rest in bed is essential for a day or two; for sometimes as soon as he got up or within a few hours another attack would begin. Often, however, he would get up and commence work only to find that after a certain number of hours the severe burning would force him to rest. Associated with these symptoms was excessive sweating of the feet.

With reference to his feet being cold, this occurred seldom. Occasionally in the winter they would become cold and white. They were "very cold" when he had cold feet. I asked him how many times he had suffered from cold feet during the past winter and he replied not over five or six times, while the burning sensation had occurred in the form of acute attacks two or three times weekly the past winter. The patient was asked particularly if the attacks were preceded by numbness, tingling, then blanching and afterwards congestion. He was certain this had never occurred, because as he said, his feet were always reddened and rarely free from burning.

The redness to a greater or less degree has been present summer and winter; the burning for the first few years was altogether absent in the winter, but in the past few winters, and especially this one, it has been present all winter and he has had numerous acute attacks of burning. A former visit to Hot Springs had been of benefit, and for this reason he had come South in the hope of getting relief.

Eight or ten years after the onset of the disease in the feet, the patient began to notice similar symptoms in the hands. First the tips of the fingers began to get red and to swell at times, but at no time has he suffered from a burning sensation in his hands like that in his feet. There has always been a sense of warmth but never unbearable burning or cold. There has been, however, sweating of the hands. This condition of the hands began in the summer time, but from the time of its appearance the redness has never disappeared.

The redness beginning on the tips of the fingers spread slowly; in the course of two or three years it reached the knuckles, then the hands, and finally the wrists, being sharply limited there at the lower limit of the sleeves. The patient noticed too that the skin

peeled off from over the terminal phalanges, and as the redness extended upward the desquamation followed as far as the first phalanx, beyond which it has never gone. There has never been any desquamation of the skin on the back of the hands or feet.

The patient has never suffered from numbness or tingling of any extremity. He has never had any signs of gangrene. His attacks have not been preceded by blanching, followed by redness, swelling and burning. These points were asked about definitely, and the attacks have come on in the manner stated. He has never had any disturbance of sensation, so far as he is aware. There has been no cramping of the muscles or lameness.

Examination.—Patient is a stockily built man with fair color. On the cheeks are numerous dilated venules, which have been present for years, and which give a purple color to his cheeks. Eyes: Pupils equal, react to light and accommodation; conjunctiva, slightly reddened. Movements of the eye muscles good. Throat: Tonsils seat of chronic tonsillitis. Heart and Lungs: Negative on percussion and auscultation. Reflexes: Normal. Sensation: No abnormality. Patient is able to distinguish heat from cold, the point of a pin from the head. Extremities: Both feet are of a deep pink color, like that of an active hyperemia, and this extends to the lower limits of the malleoli. The redness is most intense on the dorsum of the foot, but involves the sole and the heel, becoming less distinct towards the midline. The feet are slightly swollen and slightly sensitive to pressure. The feet are distinctly warmer than the limbs above the ankles. Upon elevating the limbs the color almost immediately disappears, leaving behind a slight pinkish tinge, which on prolonged elevation disappears completely. The veins on the dorsum of the foot are scarcely visible. No pulsations of arteries were observed.

On both thighs from the upper aspects to the knees there is a blotchy erythema giving to the skin a peculiar mottled appearance. Neither long saphenous vein is visible. There are numerous spider-like varicosities just beneath the skin similar to those on the face.

The posterior saphenous on each side is dilated where it empties.

The movements of the knee joints are good. Patella reflexes quite active. Over the patella there is a slight roughness of the skin which disappeared under hydrotherapy.

The veins of the leg from the knees to within

three or four inches of the malleoli are the seat of a peculiar enlargement. They simply stand out prominently, are distended, but they are not tortuous, or exceedingly numerous, and do not suggest a varicose condition. Numerous spider-like varicosities are beneath the skin.

The nails on all the toes are extremely dry, brittle and atrophied.

With reference to the veins of the leg, he did not know how long they had been enlarged. His attention he said had never been called to them. Up to a few years ago, he had had many physicians examine him and none of them had called attention to them. Whether they have come on recently he cannot say, but he feels certain they were not present when he was first taken ill.

When the patient first came into the office the most noticeable thing was the condition of his hands. These were slightly swollen and of a purple plum color, the color ending sharply at the lower limit of the cuffs. I had never seen anything like this, and as the condition was symmetrical, I wondered if I had run across a patient with pellagra. I at once examined one of the hands, and upon elevating it, the color disappeared immediately and the hand looked perfectly normal. Upon lowering it the color came back with a rush.

The redness is most marked on the dorsum of the hands and wrists, but the palms are pinker than normal. Swelling is slight and varied from day to day. The surface temperature is slightly elevated. The palms are moist.

The nails on all the fingers are hard and brittle; some of them are atrophied. The skin has begun to peel off over the terminal phalanges and while under observation this process extended almost to the knuckles. The skin shows no sign of atrophy despite duration of condition. When the hand is elevated the skin looks perfectly normal, no areas of pigmentation or scarring being present.

Blood: Hemoglobin, 80 per cent; red blood cells, 4,100,000; leukocytes, 6,500 per cubic millimeter; differential count of the leukocytes not completed as it showed no abnormal cells or proportions. There are present a few crescents and rather numerous half grown estivo-autumnal parasites.

Urine: Quantity, 1,000 cc. in twenty-four hours. No sugar or albumen—highly acid. There are thirty grams of total solids, of which only nine or ten were urea. Here it

may be stated that under treatment, the urine increased to 2,000 to 2,500 cc. in twenty-four hours, the total solids to fifty or sixty grams, of which twenty grams to twenty-two grams were urea. It may be added, too, that as the urea increased in amount the condition of the patient began to improve.

What bearing malaria may have had on the etiology of his condition is difficult to determine. Of this we are certain: For twelve or fifteen years he had had definite aching about his knees at the same hour each day. He may have had the infection for several years previous to this. This chronic infection may, by the production of some toxic agent which acted on the nerves or the vasomotor centers, have brought about this condition. We know that malarial parasites may be in the vessels of the mucosa of the stomach and completely block gastric secretion. I recall one patient who had an entire absence of hydrochloric acid in the gastric secretion, and whose condition was considered to be carcinoma, that turned out to be estivo-autumnal malaria. The condition of the stomach is not mentioned as having any bearing on the vasomotor disturbance, but merely to show what things malaria may do.

As to these, I regard the small quantity as due to the malarial injection and to a faulty elimination, due to a lack of sufficient water.

The treatment used was hydrotherapy, asperin for a few days, and iron, arsenic and quinin constantly while under my care. He was also given a tonic; the knees, feet and hands were massaged twice daily. The patient was urged to drink large quantities of water, and his bowels were kept well open. He was also given three grains of thyroid extract three times daily for the last three of a six weeks' visit. The quinin was pushed for ten days; after that about ten grains daily were taken. On the sixth day the pain below the knees, which had come on daily at a regular hour for fifteen years, disappeared and has not returned.

The condition of the feet improved; the redness persisted, but the burning disappeared. The patient walked more and was on his feet longer than he had been in years. It is to be remembered, however, that this apparent improvement came at a time of year when he has been comparatively free from the burning sensation, and as soon as hot weather comes he may again be troubled.

Just prior to coming here, though the weather was very cold, he had had numerous attacks, which had brought him to Hot Springs.

The hands improved perceptibly. The sense of warmth disappeared; the redness persisted, but was a light pink rather than purple. The lowering of either hands or feet after elevation brought on the flushing as quickly as when first seen. His general health was much improved, and the patient was satisfied, inasmuch as he had been told that he must expect slight, if any, improvement, unless the malaria aided in causing the disease.

A PLEA FOR THE EARLY DIAGNOSIS AND EARLY SURGICAL TREAT- MENT OF CANCER.*

H. H. Rightor, M. D., Helena.

The cancer question is probably the most important which confronts mankind today, and notwithstanding the enormous amount of work done by the research laboratories, we are little if any nearer its true and ultimate cause than we were a century ago. The disease is steadily and rapidly increasing among all civilized races and the rapidity of increase seems coincident with that of civilization. At its present rate, cancer will soon claim more deaths than tuberculosis, not because it is easily spread as the latter is, but because the great movement against, and the study of the White Plague by both laity and the profession, has taught us to make an early diagnosis of and to early institute proper measures for the cure of tuberculosis, consequently its death rate is rapidly diminishing. The whole body of American people has learned the prophylaxis of the disease. We need the same thing in cancer. The functions of the physician are dual—to cure disease, to prevent disease. This last includes or presupposes that we must educate the people how they can avoid disease.

Every woman in the world should know that a tumor in her breast is probably cancer; that an irregular, offensive or profuse flow about the menopause is very likely cancer of uterus. Every one should know that an ulcer of the lip which does not heal readily may be carcinoma; that a persistent stomach trouble that does not yield to treatment is probably ulcer, and that seventy per

cent of all gastric carcinomata have ulcer for a focus. These facts are elemental. What can we promise the people?

To say the least, the various theories of its causation are as yet unproven. We certainly cannot cure it unless we know more of its etiology. Up to now the most optimistic internist cannot claim one single cure. What we do know positively, however, is that at one time all cancers are local, therefore removable and curable, and this is one of the greatest advances in recent investigations in medicine. This fact is the pertinent one and the key to what I am saying today. This should make us strive diligently for an early recognition of its first symptoms and to thoroughly remove the infected area, together with adjacent lymphatic glands. One of the greatest living surgeons recently said: "The practitioner of the future who procrastinates while watching the growth of a tumor will be held accountable to the general public and he can no longer shield himself behind venerable but exploded theories. * * * Cancers in all parts of the body are necessarily surgical from their inception, and a suspicion of them should lead to surgical consultation."

One of the commonest forms of carcinoma is that of the female breast. Let us remember that of all tumors that come in the breast 85 per cent are malignant, and that one-half of the remaining 15 per cent will become malignant if the patient lives long enough. No man can palpate a breast tumor and say that it is not cancer. It should be considered malignant until proven benign. At a recent meeting of the American Surgical Society there was a symposium on breast carcinoma, and it was demonstrated that the percentage of cures in all cases operated upon was 20 to 40 per cent, while in those cases in which the axillary glands were not involved 70 to 80 per cent. This proves one thing beyond question—an early operation by any man accustomed to doing surgical work will accomplish infinitely more than a later one performed by the greatest master of surgery.

Cancer of the uterus must always be excluded positively in every woman above forty years who has a foul vaginal discharge or irregular flow, and any flow after the menopause is almost pathognomonic of this disease. Don't wait until the veriest tyro could make the diagnosis, for if you do so you will

*Read before the Third District Medical Society at Stuttgart, November 29 and 30, 1910.

have waited too long. Cut out a piece of the cervix—a good big piece—and send it to some skilled pathologist. It is only in this way that you can save these cases, for when adjacent structures or many glands are involved they are absolutely hopeless. They can be cured if we make the diagnosis sufficiently early; but like the breast cases, if we delay for weeks trying to decide we might just as well never decide, for another life, another wife and mother, is sacrificed.

Cancer of the lip is another fairly common form. As I said a few moments ago, beware of any ulcer on the lip which fails to heal. Cut it out bodily with a “V”-shaped incision and have a histological examination made. These cases can all be cured if they are diagnosed before glandular involvement. I don’t mean to leave the impression that they can be cured without the removal of all the glands, however.

Cancer of the stomach, which is the most frequent of all the cancers, has been considered a medical disease and treated as a medical disease since we first knew of it, and

with what results? One hundred per cent mortality.

Dr. W. J. Mayo has recently reported 251 gastric resections with an operative mortality of 13 per cent. Twenty-nine per cent of those operated on three years ago who survived the operation are living today and well. Think of it. And it is fair to say that the per cent would have been infinitely greater if the surgeon had seen more of the cases earlier. Cancer of the large intestine is the most curable of all cancers. In the same clinic 60 per cent of those who recovered the operation are living three years afterward.

Dr. Hodenpyl of New York, who unfortunately has recently died, was making some remarkable experiments with the ascitic fluid of a carcinomatous patient; but as yet surgery is the only branch of medicine which has cured cancer, and the sooner the operation the better the prognosis.

My plea is, make an early diagnosis and institute immediate surgical treatment.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

The Legislative Committee has about completed the State Board of Health bill, which will be introduced at the present session of the legislature. Arkansas is now attracting more attention than any State in the Union, and let's do our part, if possible, and we can do it in no better way than by having good health laws. So don't depend too much on your committee, for this is a work that every member of the society can do much toward accomplishing. Don't wait till tomorrow, but write your representative and senator today and have your friends write them.

ARE OPPOSED TO MEASURE.

There has been circulated among the citizens of Helena a petition asking the legislature to pass the bill which has been prepared by the legal representatives of those interested regarding the practice of optometry, etc., in Arkansas. This petition was signed by several physicians, who had not given the matter any thought, but who are now hastening to have their names withdrawn from the petition. A well-known medical authority has this to say regarding bills of this character:

"So far from having the endorsement of any physician, the proposed law should meet with his disapproval and condemnation. There is no necessity or justification for such laws, nor can any arguments be advanced by those who favor them, except those that are founded on sophistry. The experience has been that just as soon as refracting opticians receive recognition by the passage of such bills by any state legislature they immediately assume and advertise themselves as on an equality with members of the medical profession, whereas they are not medically trained and the public is correspondingly deceived.

"The so-called optometry bill, which the citizens of Helena and other portions of Arkansas are asked to favor by signing a petition asking the legislature to pass the same, so that it may become a law in this state, legalizes prescribing for eyes by men who are not members of the medical profession, such as opticians, lens-grinders and jewelers. A considerable portion of defective eyes are the result of disease or abnormal conditions of the body. This being a fact, a bill that licenses an optician to prescribe for conditions which can be recognized and treated only after years of study and training in medicine may legalize the doing of an irreparable injury.

Under this bill, practically any man who has made and ground glasses for a period of two years before the passage of the bill can be admitted to practice as a licensed refracting optician.

"Under this license, without even a smattering of medical knowledge, he can prescribe for the eyes of a man who is suffering from Bright's disease or from rheumatic troubles, which diseases, as well as others, directly affect the eyes, although he knows nothing about the particular disease or the general principles of anatomy, physiology and pathology. Moreover, the bill not only licenses a host of incompetents, but it takes away from them all chance of prescribing correctly, as

under the provisions of the bill opticians are not allowed to put drops in their customers' eyes, while it is almost the unanimous consensus of opinion among the writers of textbooks and ocular authorities that the majority of individuals under thirty-five years of age cannot have their eyes accurately measured for glasses without the use of drops.

"By allowing non-medically trained persons to prescribe without this safeguard, inaccurate and harmful measures are legalized by statute. It is the province of the optician to grind lenses in accordance with the prescription of a trained doctor. He has no more business to prescribe for diseases of the eye or to attempt to treat abnormal conditions of the eye than has the shoemaker or glovemaking to treat the diseases of the feet and hands. The medical profession, the better class of opticians and the majority of the thinking members of the medical profession are opposed to such legislation because they do not believe in creating a doctor by statute rather than by study and training, and especially because the proposed bill not only legalizes the incompetent men, but also incompetent methods, which are against the weight of all medical authority."

Members of the Phillips County Medical Society have appealed to Representative Jackson to oppose the bill, and will request Representative Diesch and other members of the legislature to do the same. Dr. M. Fink, secretary of the Phillips County Medical Society, and chairman of the Committee on Public Health and Medical Legislation of the society, requests citizens to consider the matter carefully before signing the petition.—*Helena Daily News*.

THE CAMMIDGE REACTION.

Haines (*The Lancet-Clinic*, November 19, 1910) says:

The pathology and surgery of the pancreas have been written since the advent of Lister; prior to his teaching this organ was regarded as a sort of physiological enigma whose postmortem findings occasionally showed cystic degeneration, calculi or malignant changes. The delicate conformation of the pancreas, the very care with which nature has tucked it away and protected it by surrounding structures led the ancients to suspect the organ as one of great importance to the physiological economy, but gave them a false sense of security on the part of the pan-

creas from injury or disease; furthermore, that this hidden organ was inaccessible to the surgeon.

Numerous observations made at the operating table, checked by a careful study of the symptoms and postoperative histories, has founded a basis upon which a mass of data rests awaiting clinical differentiation.

The intimate relationship between gall-bladder pathology and pancreatitis is well known, and is one of the factors to be considered in advising delay or immediate operation. The frequency with which catarrhal duodenitis is complicated by pancreatitis has led clinicians to regard the former as one of the forerunners of disease of the pancreas.

Some of the more practical results of these observations on the pancreas lie in the recognition of the fact that chronic pancreatitis is not such an unusual condition, and that many cases of enlargement and induration diagnostic of malignancy of the pancreas are in reality cases of chronic pancreatitis and amenable to surgical treatment. But with all these data at our disposal our means of sharp clinical discrimination between chronic lesions of the pancreas and neighboring structures is still deficient.

The cause of absence of color in the stool, though significant, is not pathognomonic of disease of the pancreas. The presence of sugar in the urine and undigested meat fibers in the stool, in conjunction with gross metabolic changes, when associated in one patient, are conclusive evidence of disease of the pancreas. One of the chief sources of error in the study of disease of the pancreas based upon postmortem findings is the rapidity with which the organ changes after death. We know of no other instance where the lines between the appearance of living pathology and postmortem changes are so sharply defined; the thick indurated head of the pancreas palpated at operation and the small shriveled organ which presents on postmortem are as different in appearance as night and day.

We are told by the laboratory man that little of the true state of the pancreas is revealed by its gross appearance, and that we must turn to the microscopic study of the gland to comprehend its pathology and to the test tube for interpretation of the manifold symptoms of chronic pancreatitis.

The vast amount of labor performed with a view to discovering some chemical reaction on the part of the urine of the patient which

would be reliable as a check or confirmation of the clinical diagnosis is crystallized in what has been designated in the literature as the Cammidge reaction. The published reports of Mr. Cammidge's labors appeared four years ago and were seized with avidity by the voracious horde which ever abound in the temple of learning. Many enthusiastic reports from the laboratory anent the certitude with which the differential diagnosis might be established and material assistance rendered in the management of these cases appeared from time to time until the present, with here and there a skeptical note anent the value of this complicated chemical reaction in the scheme and diagnosis. Unfortunately, later reports seem to indicate the utter uselessness of the Cammidge reaction in diagnosing disease of the pancreas. In passing, it is but fair to note that Mr. Cammidge has been less enthusiastic with reference to the range of application or true value of the reaction than many of his followers.

Wilson (Surgery, Gynecology and Obstetrics, August, 1910), and his corps of workers in the St. Mary's Hospital, have given the Cammidge reaction a fair hearing, and present the following conclusions:

"From the foregoing it is apparent:

"1. That even where the most elaborate care is exercised to follow the technic of Mr. Cammidge's 'C' reaction, in the most uniform manner, if knowledge of the clinical histories and other factors of the personal equation be eliminated, the end-results, judged by Mr. Cammidge's own criteria, must be considered as a means of diagnosing disease of the pancreas as both valueless and misleading.

"2. There is no apparent clinical relationship between disease of the pancreas and any of our various types of end reaction.

"3. It does not seem to us that the end reactions are satisfactory, but rather that they indicate actual metabolic variations. The relationship of these changes in metabolism to the welfare of the patient is not apparent."

THE MEDICAL PROFESSION MUST CHANGE ITS TACTICS.

William J. Robinson, M. D., New York,
President of the American Society
of Medical Sociology.

He who is not a frequent visitor to radical clubs does not come in contact with newspaper men, with New Thinkers, and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, how it is maligned, how it is lied about, how it is misrepresented, how it is "knocked" on every possible occasion.

We are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, drug dopers, etc., etc. We are denounced as a trust, monopoly, and any attempt of ours to organize, to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition, by our fear of the superior skill of our irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how we are losing the confidence of the people, how the ground is slipping from under our feet.

As an illustration we need only mention the reception that has been accorded to the suggestion of a Federal Department of Health. The motives that actuate us and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshaled and in a short time a society was organized, which now

claims a membership of one hundred and fifty thousand.

We physicians are ourselves to blame. When the irregular, fantastic and pernicious cults began to make their appearance, we paid no attention to them. We thought they amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, we remained silent. We considered it *infra dignitatem* to pay attention to them, and we thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

Our long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it can take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every other line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that we actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, we can do much toward destroying the influence of the quacks and the irregular cults. In short, we must throw off our exclusiveness, we must go out to the public and take it into our confidence.

The truth is with us—that we know; only we must not hide it under a bushel, and expect that its light will, without any effort on our part, penetrate into the darkest recesses of ignorance and quackery.

SUES STATE MEDICAL BOARD FOR REISSUANCE OF LICENSE.

Dr. T. M. Stotts filed suit in the Pulaski Chancery Court, January 14, against the State Medical Board of the Arkansas Medical

Society, praying that the board be ordered to reissue his license to practice medicine. He alleges that the board revoked his license to practice on November 9, 1910, without just cause.

It will be remembered that Dr. Stotts was at the head of an advertising medical institute in this city last year. He evaded the sheriff when Dr. McCreary, who was an assistant, was cited to appear before the board and show cause why his license should not be revoked for advertising and guaranteeing to cure incurable diseases. McCreary's license was revoked by the board. He then took an appeal to the courts, claiming the law unconstitutional. The Supreme Court upheld the law.

Dr. Stotts left the state after the decision of the court, but recently returned to Hot Springs. The board got service on him in this city prior to their November meeting, and at this meeting his license was revoked.

County Societies.

LEE COUNTY.—The following were elected as officers of the Lee County Medical Society at the December meeting, to serve during 1911: President, A. A. McClendon, Marianna; vice president, E. D. Wall, Park Place; secretary and treasurer, W. B. Bean, Marianna; delegate, O. L. Williamson, Marianna; censor, W. H. Deaderick, Marianna.
W. B. BEAN, *Secretary*.

BOONE COUNTY.—On the 3d of January our society met in Harrison, Ark. Present: Drs. A. M. Hathcock, president; J. H. Fowler, D. E. Evans, A. J. Vance, J. L. Sims, L. Kirby and F. B. Kirby. Dr. Vance read a paper on "The Dangers of Uterine Curettement." Dr. L. Kirby read a paper on "The Internal Secretions." Officers elected: Dr. J. H. Fowler, president; D. E. Evans, vice president; H. L. Routh, treasurer.

From the way the Boone County doctors talk they will nearly all go to the State meeting at Fort Smith.

Dr. J. L. Reich, late of Everton, now of Wagoner, Okla., was in Harrison a few days ago. He says Arkansas still looks good to him.

Dr. H. L. Routh of Batavia was elected president of the Surgeons of the Missouri and North Arkansas Railroad Association at its meeting at Helena in December.

F. B. KIRBY, *Secretary*.

WASHINGTON COUNTY.—The Washington County Medical Society held its annual meeting at Fayetteville, January 17, 1911. The meeting was postponed from the 3d to the 17th on account of the unfavorable weather. Both president and vice president being absent, the meeting was called to order by the secretary, and Dr. Hathcock was made president pro tem. On motion, the reading of the scientific papers was postponed until after the election of officers and payment of dues. Dr. P. L. Hathcock was elected president for the year; Dr. A. J. Harrison, vice president; Dr. Nina V. Hardin, secretary, and Dr. A. S. Gregg, treasurer. Dr. Blackburn was elected to succeed himself as delegate to the State Society, and Dr. Ellis as alternate delegate. Following is the program:

Paper, "Poliomyelitis"—Dr. E. F. Ellis.

Paper, "Bronchial Pneumonia"—Dr. Otey Miller.

Paper, "Lobar Pneumonia"—Dr. James Pittman.

These subjects were discussed quite thoroughly by the members.

Those present were: Drs. T. W. Blackburn, Otey Miller, E. F. Ellis, H. D. Wood, Nina V. Hardin, John Young, A. J. Harrison, F. B. Young, P. L. Hathcock, D. C. Summers, Phoebe Lininger.

There being no further business, the society adjourned to meet in quarterly session at Fayetteville on the first Tuesday in April, 1911.

NINA V. HARDIN, *Secretary*.

INDEPENDENCE COUNTY.—The Independence County Medical Society met in Batesville Monday night, January 4, with the following members present: Drs. R. C. Dorr, J. H. Kennerly, J. W. Case and Frank A. Gray, of Batesville; T. N. Rodman and O. L. Bone, of Cushman, and L. T. Evans, of Barren Fork. Some good papers were read and freely discussed; also several interesting cases were reported and discussed. It was the opinion of all present that this was the most interesting meeting that we have ever had. The meeting adjourned to meet in Batesville the first Monday night in April. The president being absent, the meeting was presided over by Dr. T. N. Rodman, of Cushman, the vice president.

FRANK A. GRAY, *Secretary*.

Personals.

Dr. W. F. Smith, of Clarksville, has located in Springfield, Mo.

Dr. A. Thialliere of Pleasant Plains will spend the coming year on his plantation at Varner.

Dr. Frank A. Gray, of Batesville, has opened a sanatorium, and has it equipped with the more modern methods of giving hydro- and electro-therapy.

Dr. C. C. Stephenson of Los Angeles, Cal., ex-president and secretary of the Arkansas Medical Society, recently sent us the Bulletin of the Los Angeles County Medical Association, which shows that they are making great preparations to entertain the A. M. A. in June.

Deaths.

Mrs. A. L. Peacock, wife of Dr. A. L. Peacock, died December 24, 1910, after a prolonged illness.

Dr. H. H. Davis, of Mount Vernon, was shot and instantly killed on January 10 by Edgar Henry. Henry became suddenly insane, and, mounting a horse, started on a mad ride, shooting at everybody he saw. He shot into a school house full of children, but none of them was hurt. In the road he encountered Dr. Davis, who was out making his calls, and began to fire on him, killing him instantly. Henry is now confined in the insane hospital.

Book Reviews.

Practical Dietetics.—By W. Gilman Thompson, M. D., professor of medicine in the Cornell University Medical College, New York City. Fourth edition, illustrated, enlarged and completely rewritten; 907 pages, 45 illustrations; cloth, \$5.00. D. Appleton, New York, 1909.

It was the design of this work to furnish a source in which the accepted method of dieting could be found for each condition of disease amenable to dietetic influence. It has been completely rewritten and some seventy-five pages of new matter added.

Publisher's Notice.

"Everything under the sun for physicians" might be suggested as a motto not inappropriate for Parke, Davis & Co. The thought is prompted by the recent incursion of the company into the field of surgical dressings. It was something like a year ago, if we mistake not, that Chloreton Gauze and Formidine Gauze were launched in modest fashion, the purpose evidently being to let them find their way into the medical armamentarium in the natural order of events rather than by artificial fostering. Their reception by the profession must have been gratifying, for the line soon began to expand. Now it numbers six gauzes and tapes, and we note a disposition on the part of the company to bring them more prominently to the attention of physicians. For this reason a word or two in explanation of them may not be out of place.

The line includes Chloreton Gauze, Formidine Gauze, Formidine Tape, Adrenalin Tape, Plain Tape and Anesthone Tape. What has been said of the therapeutic properties of Chloreton, Formidine, Adrenalin and Anesthone (and most physicians are well

acquainted with these products) is applicable to the surgical dressings. Chloreton Gauze applied to raw surfaces exerts an anesthetic and antiseptic action, promoting the comfort of the patient. It is markedly useful in extensive burns. Formidine Gauze takes the place of iodoform gauze. It is more actively antiseptic, does not stain the clothing, is nontoxic, and is practically odorless. Formidine Tape, which comes in two widths (one-half inch and one and one-half inches) is used for packing cavities antiseptically. Adrenalin Tape, supplied in one-half and one and one-half-inch widths, is serviceable in tamponing cavities to check hemorrhage. Plain Tape, which also comes in the two widths above mentioned, is used for packing and draining small wounds and cavities. Anesthone Tape is serviceable in the various forms of nasal hyperesthesia. All of the tapes are double-selvaged and when removed from wounds do not leave short threads to cause irritation.

Parke, Davis & Co. issue a small pamphlet descriptive of their medicated gauzes and tapes. Physicians who have not received a copy are advised to write for one. The dressings are pretty generally carried in well-stocked pharmacies.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
 Third Vice President—William G. Moore, St. Louis.
 Fourth Vice President—Henry L. E. Johnson, Washington, D. C.
 Secretary—George H. Simmons, 535 Dearborn Ave., Chicago.
 Treasurer—Frank Billings, Chicago.
 Board of Trustees—Wisner R. Townsend, New York City, secretary, 1911; Philip Mills Jones, San Francisco, 1911; W. T. Sarles, Sparta, Wis., 1911; M. L. Harris, Chicago, chairman, 1912; C. A. Daugherty, South Bend, Ind., 1912; W. T. Councilman, Boston, 1912; W. W. Grant, Denver, vice chairman, 1913; Frank J. Lutz, St. Louis, 1913; C. E. Cantrell, Greenville, Tex., 1913.
 Judicial Council—William C. Woodward, Washington, D. C., chairman; Lawrence M. Shaw, Osceola, Neb.; Louis A. Hahn, Guthrie, Okla.; Charles S. Huffman, Columbus, Kan.; George K. Angle, Silver City, N. M.
 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912. Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1911; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kebler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
 Council on Health and Public Instruction—H. M. Bracken, Minneapolis; W. B. Cannon, Boston; H. B. Favill, Chicago; J. N. McCormack, Bowling Green, Ky.; W. C. Woodward, Washington, D. C.
 Director of the Scientific Exhibit—Frank B. Wynn, 311 Newton-Claypool Bldg., Indianapolis.

OFFICERS OF SECTIONS

Practice of Medicine—Chairman, Allen L. Jones, Buffalo; vice chairman, Charles L. Greene, St. Paul; secretary, Wilder Tileston, 308 Crown St., New Haven.
 Obstetrics and Diseases of Women—Chairman, Horace G. Wetherill, Denver; vice chairman, Fred J. Taussig, St. Louis; secretary, C. Jeff Milles, 404 Medical Bldg., New Orleans.
 Surgery—Chairman, George W. Crile, Cleveland, Ohio; vice chairman, Emmet E. Rixford, San Francisco; secretary, John T. Bottomley, 165 Beacon St., Boston.
 Ophthalmology—Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; vice chairman, Edward E. Ellett, Memphis, Tenn.; secretary, Edgar S. Thompson, 19 E. 44th St., New York.
 Laryngology and Otology—Chairman, Roy Dunbar, Atlanta, Ga.; vice chairman, W. E. Sauer, St. Louis; secretary, George E. Shamhaugh, 100 State St., Chicago.
 Nervous and Mental Diseases—Chairman, W. A. Jones, Minneapolis; vice chairman, Herman H. Hoppe, Cincinnati; secretary, E. E. Southard, 37 Trowbridge St., Cambridge, Mass.
 Preventive Medicine and Public Health—Chairman, W. A. Evans, Chicago; vice chairman, Marshall Langton Price, Baltimore; secretary, C. Hampson Jones, 2529 St. Paul St., Baltimore.
 Stomatology—Chairman, S. L. McCurdy, Pittsburg, Pa.; vice chairman, Virgil Loeb, St. Louis; secretary, Eugene S. Talbot, 103 State St., Chicago.
 Diseases of Children—Chairman, S. M. Hamill, Philadelphia; vice chairman, Thomas D. Parke, Birmingham, Ala.; secretary, L. T. Royster, Norfolk, Va.
 Dermatology—Chairman, Charles J. White, Boston; vice chairman, Martin F. Engman, St. Louis; secretary, H. R. Varney, 604 Washington Arcade, Detroit.
 Pharmacology and Therapeutics—Chairman, Lawrence Litchfield, Pittsburg, Pa.; vice chairman, George B. Wallace, New York; secretary, M. I. Wilbert, Twenty-fifth and E Sts., N. W., Washington, D. C.
 Pathology and Physiology—Chairman, Yandell Henderson, New Haven, Conn.; secretary, Leo Loeb, 4109 Pine St., Philadelphia.
 Genito-Urinary Diseases—Chairman, W. T. Belfield, Chicago; vice chairman, James Pedersen, New York; secretary, Hugh H. Young, Professional Bldg., Baltimore.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY, 1910-1911

Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
 First Vice President—L. F. Magee, Frosville.
 Second Vice President—J. B. Grammar, Searcy.
 Third Vice President—Thad Cothren, Walcott.
 Treasurer—J. S. Wood, Hot Springs.
 Secretary—Morgan Smith, Little Rock.
 Delegate to American Medical Association—J. F. Clegg, Siloam Springs.
 Alternate—R. H. Barry, Hot Springs.

OFFICERS OF SECTIONS.

Medicine—T. F. Kitrell, Texarkana, chairman; A. S. Buchanan, Prescott, secretary.
 Surgery—Henry Dickson, Paragould, chairman; Will Owen, Paragould, secretary.
 Obstetrics and Gynecology—S. J. Hesterly, Prescott, chairman; W. C. Dunaway, Little Rock, secretary.
 Pathology—M. D. Ogden, Little Rock, chairman; William H. Deaderick, Helena, secretary.
 State of Medicine and Public Hygiene—St. Cloud Cooper, Fort Smith, chairman; Anderson Watkins, Little Rock, secretary.
 Dermatology and Syphilology—Samuel Steer, Hot Springs, chairman; M. F. Mount, Hot Springs, secretary.

COMMITTEES 1910-1911.

Committee on State Legislation and Public Policy—F. T. Murphy, chairman, Brinkley; M. L. Norwood, Lockesburg; J. G. Eherle, Fort Smith.
 Committee on Scientific Work—B. L. Harrison, Little Rock, chairman; H. H. Neihuss, Wesson.
 Tuberculosis Committee—F. B. Young, Springdale, chairman; H. T. Thihault, Scott; A. J. Vance, Harrison.

COUNCILOR DISTRICTS AND COUNCILORS.

1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Oleburne, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmet. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Neihuss, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, H. McKenzie, Dardanelle. Term of office expires 1912.
 Ninth Councilor District—Baxter, Boone, Carroll, Marion, Newton, Searcy, Stone and Van Buren counties. Councilor, C. T. Canady, Marshall. Term of office expires 1911.
 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

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Original Articles.

POST-ANESTHETIC ACIDOSIS.

By J. G. Eberle, Fort Smith.

A fatal result has been observed occasionally following a major operation of surgery, the cause of which, until recently, was not understood. It was clearly not due to the shock of the operation, nor to subsequent infection, nor was it thought to be due to the anesthetic, for it had been accepted as a truism, that after the anesthetic had terminated and the patient had regained consciousness, all danger from this source had passed.

It has been learned, however, in the last few years, that there is a delayed form of poisoning or intoxication following anesthetic, chloroform more particularly, but also ether, and to a less degree nitrous oxide gas, which clears up what was before obscure, and enlightens us regarding a condition we did not formerly understand.

Having seen two fatal cases of this sequela of chloroform, I thought it would be interesting to review some of the recent literature upon this subject. Post-anesthetic acidosis, or acetonuria, are the terms most frequently used to describe this affection, the condition being one of acidosis and is characterized by the excretion of acetone and diacetic acid by the kidneys.

Dr. Thomas S. Githens, of Philadelphia, in an able paper on chloroform and delayed chloroform poisoning, says of this condition: "Clinically, the cases tend to fall into two groups, one resembling diabetic coma and the other acute yellow atrophy of the liver. The first type is almost always seen in children

and begins ten to one hundred hours after the anesthesia, recovery from which has been normal. The first sign is usually a wild terror, with loud screaming, after which the child sinks into lethargy and the odor of acetone is noted on the breath. Vomiting of sour matter, smelling of acetone, is frequent. Soon coma supervenes and death follows in a day or so. The urine shows varying amounts of acetone, diacetic and oxybutyric acids, but no other abnormality. At autopsy, a varying degree of fatty degeneration of all the organs is found, especially the liver, heart, kidneys and walls of the stomach.

"The second type begins under similar circumstances, with vomiting of a sour matter, which soon changes to a brown fluid, like dregs of beef-tea or coffee. Jaundice rapidly follows, and the breath smells of acetone. Air hunger and distress and unrest succeed and finally pass into fatal coma. The urine shows large amounts of bile pigment, but less acetone than in the other type. Autopsy shows marked change everywhere; the kidneys are inflamed and may show tiny areas of necrosis. The liver is changed into a homogeneous mass of bright yellow fat, the lines between the lobules are lost, the findings being practically those of yellow atrophy. Almost all the cases in adults have been of this type."

Dr. Githens says of the treatment: "Delayed chloroform poisoning may be avoided by seeing to it that the patient, before operation, has a sufficient store of glycogen. A meal consisting of starches and sugar should be given about two hours before beginning the anesthesia. This will give the stomach time to empty itself. Glucose should be given to the patient as soon as the recovery of the anesthetic is complete. The usual habit of starving a patient a day before, and under-feeding him for some days after the anes-

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

thetia, is a fruitful cause of trouble, as Hunter has shown. If the symptoms of acidosis occur, large amounts of glucose should be given by rectum, or hypodermoclysis, with small amounts of sodium bicarbonate."

Hare, in an editorial in the *Therapeutic Gazette*, says: "This important sequel of the administration of chloroform, ether and other anesthetics is rarely met with, but when it occurs it is so grave that all cases which develop it should be reported, in order that our knowledge of so interesting a state may be increased. It will be recalled that the characteristic symptoms usually develop in from eighteen to seventy-two hours after the anesthetic has been given and are characterized by nausea and vomiting, accompanied by great prostration, rapidity of the pulse and stupor. There is no febrile movement, but the breath has a fruity odor, like that often met with in cases of diabetes, and sometimes the stupor is interrupted by active delirium, followed in turn by deepening coma, in which the patient dies. In a considerable proportion of cases the coma gradually passes away and the patient recovers."

One theory in regard to the development of acidosis after anesthesia is that it is due to idiosyncrasy; another, that it arises from some gastrointestinal disturbance; still another, that it depends upon some preëxisting disorder of metabolism, with fatty changes in the liver; and still another theory has been that nervous influences are a large factor in the development, a toxic substance being produced, as a result of disordered innervation of important organs.

Whatever the etiological factors may be, it is undoubtedly a fact that autopsy in these cases shows with constancy fatty infiltration of the liver, or, to speak more correctly, fatty degeneration of this organ, and not rarely other organs are found to have undergone such fatty changes.

Gundrum believes that a considerable proportion of cases subjected to surgical anesthesia develop at least a slight acidosis. He also thinks that the character and amount of the anesthetic and the duration and character of the operation are of little importance in determining the development of this complication, and he concludes that starvation and digestive disturbance are also not to be considered as etiological factors. He believes, however, that emotional individuals

are more prone to its development than the more phlegmatic.

Hare does not fully concur in this view of Gundrum's, holding that the longer the anesthetic is given, the greater is the opportunity for metabolic degenerative changes to occur. He further states that prolonged operations are more prone to produce acidosis than brief ones, and statistics also show that chloroform is more commonly guilty of producing this condition than ether or nitrous oxide gas.

A large number of experiments can be quoted which seem to prove pretty conclusively that starvation of a patient prior to operation, by the withholding of food, or by the inability of a patient to assimilate food, is a very distinct factor in predisposing the patient to this dangerous malady.

In an interesting study of this subject in the *University of Pennsylvania Bulletin*, Hamblen states there can be no doubt that etherization itself will produce acetonuria in a certain number of cases; but it also seems very probable that there are a good many other contributing factors which must be taken into consideration, such, for example, as prolonged starvation, before and after the operation.

In a large series of operations made in a children's hospital, it was found that boys were more subject to post-anesthetic acetonuria than girls. He considers the method of administration of the ether of more importance than the quantity used, or the length of time the anesthesia is continued. In 120 cases etherized by the "cone method," acetone was found in 88.5 per cent, while in the same number of cases in which the drop method was used, only 26 per cent showed acetonuria.

Hamblen also gives a study of sixty cases operated upon at the University Hospital, in which ether was the anesthetic employed, where acetonuria occurred in 30 (or 50) per cent after operation, and it was also present in eleven of the cases before operation, but in none of these eleven cases were any symptoms of acidosis noted. However, he remarks, seven of these cases were appendicitis, including the chronic, acute and gangrenous types. So, when we consider that there were only ten cases of appendicitis in the entire series, it at least suggests the possibility of a relation existing between acetonuria and appen-

ditis, but, of course, it would not be safe for us to draw any definite conclusions from such a limited number of cases. He says, however, there would at least seem to be an open field for work along this line, and if acetonuria should be found to be more or less a constant accompaniment of appendicitis, it would certainly be a great aid to diagnosis, especially in obscure cases. A further study of the cases, he says, show conclusively that ether anesthesia is a very real cause of acetonuria in about one-third of all cases.

As to the curative treatment of acidosis, it being based upon a perfectly rational foundation, namely, an excess of acid in the blood, Hamblen recommends purgation and sweating, to eliminate the acid and sodium bicarbonate in doses of ten grains every two hours, to neutralize that which remains. In spite of this, he further says, the treatment of many cases is disappointing, probably because too much damage has already been done by the acetone bodies in the early stages of acidosis, or because the alkali does not reach the tissues where the acetone bodies are found and where the damage is done.

Stevens, in an article in the association journal, after describing the usual symptoms of acidosis, says "autopsies almost invariably show the same macroscopic and microscopic changes, which are: pale and fawn-colored liver, fatty degeneration or infiltration of the liver, the various changes of nephritis in the kidney, fatty degeneration of the heart, and fatty degeneration of the muscles of the lower limbs. The most important of these are those found in the liver—fatty degeneration and necrosis of the liver cells, autolytic disintegration of the necrotic cells and fatty degeneration of the cells which are not necrotic. The capillaries and blood vessels do not seem to be involved. There is no thrombosis and no inflammation or proliferative action. This condition is essentially an hepatic toxemia and the other changes are secondary, in importance, to those in the liver."

The affection is mentioned in only a few of the standard works on surgery, and in only the very late editions of these.

Da Costa, in the last edition of his surgery, says: "Acid intoxication is much commoner after the administration of chloroform than ether, but may follow the giving of any general anesthetic. It may occur in individuals whose tissues contain areas of fatty degen-

eration, but it also occurs in those entirely free from degeneration; in fact, children particularly suffer in this way, after the use of chloroform. The actual operation has nothing to do with the trouble, and sepsis is not causative. The drug used as an anesthetic breaks up fat and forms certain antecedents or precursors of acetone; these precursors are beta-oxybutyric and other acids. The symptoms arise after the patient has emerged from anesthesia and reacted from shock. There is persistent vomiting of a thin and foul fluid; the patient is extremely restless and much excited. There may be delirium, but dullness and heaviness may take the place of restlessness and excitement, and coma may arise. Usually the temperature is subnormal.

"In many cases jaundice arises. There is an odor of acetone on the breath. The urine contains albumin and casts either diacetic acid or acetone, or both. Some cases recover, but most of them die in from one to five days.

"A knowledge of this condition explains some otherwise inexplicable deaths, and also some cases of retarded convalescence.

"In acid intoxication there is fatty degeneration of the kidneys, of the liver, of the suprarenal glands and of the gastric mucosa. The occurrence of such a condition is an impressive admonition that a surgeon should operate quickly, that as little of the anesthetic should be given as possible, and that the urine should be carefully examined each day after operation, for several days.

"Severe acid intoxication is treated as follows: Encourage skin activity by wrapping the patient in blankets and surrounding him with hot water bags. Give salt solution, with bicarbonate of sodium, by hypodermoclysis and by the rectum. In mild cases of acetonuria, simply give sodium bicarbonate, by the stomach."

DISCUSSION.

Dr. Thibault (Scott's)—I have had the unfortunate experience of seeing two cases of post-anesthetic poisoning, both of them in children, and both after the administration of chloroform. The only fortunate thing about it was that both of them were not fatal, one of them recovering. It has been the habit in the South, as all of you know, to give chloroform indiscriminately, and especially to give chloroform to children. As Dr. Eberle

brought out in his paper, that is a particularly dangerous attitude to take, to administer chloroform to children.

One of these cases occurred in my own practice; was a robust, healthy little fellow of about four years of age; nothing on earth the matter with him except an adherent prepuce. He was an exciteable little fellow, and it was pretty hard to do anything with him with local anesthesia. He raised so much sand if you took his temperature, as if you were amputating a limb without an anesthetic. I got a physician to give him chloroform. I made all the preparations for a circumcision before any chloroform was administered, and I am sure that he wasn't under the chloroform more than twelve minutes. He came out all right after the operation, and sat up in bed that evening, and there seemed to be nothing the matter. I assured the family that he was going to get along all right, and wouldn't know the difference between having the operation done and not having it done. The next morning I went to see him, and he was restless; in a few hours he was in a coma, vomiting, and in twelve hours more I decided he was going to die. I called a consultation, and just about the time I gave up all hope for the little fellow, I gave him bicarbonate of soda by hypodermoclysis; I thought I had done everything I could for him; he changed for the better, and got well.

The second case was a young girl, about seven years old, who stuck a thorn in her foot. It wasn't my case, but I was present at the operation. The thorn had broken off under the integument in the plantar fascia, and the doctor that operated upon her decided to give chloroform. She was probably under the influence of the chloroform not over six minutes. He made an incision in the sole of the foot and took the thorn out, washed out the opening and dressed it. In sixteen hours after she came off the table I smelled acetone on her breath, and in less than twenty-four hours she was dead.

These were both very trivial operations, and no one that has not seen it can realize the enormity of such an accident happening after taking a thorn out of the sole of the foot or cutting off a little pile or something like that. Since that time I have limited my use of chloroform to cases of obstetrics, and always use it then with a full respect for its dangers.

Dr. Runyan (Little Rock)—I think that there is hardly anyone here doing surgery that has not had an opportunity of seeing some of these cases. The great trouble has been heretofore that these cases were not understood, and doubtless many cases have been seen in the practice of each one of us before we had had any literature on this subject, and, like myself, doubtless some of these cases were attributed to sepsis. I know that is what I treated these cases for; that is what I diagnosed them, and it was a long time before I had any idea of the true pathology of these cases. I still know very little about the condition myself, except what I have seen in the literature, and what the theory is as to the cause of the trouble.

But there is one point I wish to take up this morning. I think this paper should be a good object lesson to all of us. Two years ago I remember we had up the discussion of the subject of anesthesia, the kind of anesthetic to be used. At that time there were various opinions, but I believe the preponderance of opinion, or the consensus of opinion of this medical society, was mostly in favor of giving chloroform as a general anesthetic. I remember that I got up at that time and said I did not believe that the discussion would have anything to do with altering the opinion of anyone as to the kind of anesthetic he considers should be administered. It is going to take a good deal more experience to change each one's opinion. I told you at that time that I, for one, had had my experience, my sad experience, in the administration of chloroform. I had lost three patients; each one of those patients had been given not more than a tablespoonful of the anesthetic before death occurred. It wasn't the amount of chloroform; it was some unknown thing that I still don't understand. Now, if this paper will do one thing, if it will set people to thinking and to judge between the two anesthetics (I will say chloroform and ether), and to decide that ether is the safer anesthetic, that paper will have done a world of good for the State of Arkansas, and it will be the means of saving many lives. I am glad that the doctor has brought out the fact that this condition occurs more frequently in the administration of chloroform than ether. It seems that the recital of the death losses in the hands of one does not affect the other man until he has had a death or more than one

death. Now, if we can have another ground upon which we can say that ether is the safer than the fact that death occurs immediately upon the table, I believe that we will go away from here with the idea that it is safer to give ether than chloroform, and that paper will have done a world of good if only that point is brought out and emphasized here to-day.

Dr. Vance (Harrison)—I am glad to hear Dr. Runyan come out like he has. It has been some time now since our Northern and Eastern hospitals have done away with chloroform and use ether, but there has been a prevalent opinion throughout the South that chloroform is better in the South than ether, and that thing is going to be overcome. A friend of mine, who was an Arkansas-reared man, now practicing out in Washington, admonished me to get away from chloroform. He said: "You will have some bad results some day and it will be hard to explain." I was inclined to argue with him that it was safer in the South than in the North. He said: "Get away from it." And that is what I am trying to do. But I haven't missed in short operations using chloroform, because they get under it more quickly and it saves time.

Mr. Mann (Texarkana)—I think, gentlemen, as Dr. Runyan said, a man has to have his own experience. I believe that if this society would appoint a commission of three or five members to investigate this whole subject and present a symposium at our next meeting on the subject of anesthesia, it would be a splendid thing. The British Medical Association a few years ago did appoint a committee to investigate the subject of anesthesia, and in England chloroform is used very much more frequently than ether; and yet the members of that commission from the British Medical Association came back with a report stating that ether was far the safer anesthetic. And I believe if the idea of chloroform is still prevailing among the members of the Arkansas Medical Society, that a commission appointed to look into this matter and bring back a report which might have some effect at our next meeting, it would be a good idea.

Dr. Witt (Little Rock)—One of the remarkable things to me has been for several years, that physicians in the South are using chloroform in preference to ether. Statistics

show that the death rate from ether anesthesia is one in five thousand, and that in chloroform one in about three thousand. And why Southern doctors use chloroform in preference to ether I have never been able to understand. I was in New York a few years ago, and I noticed that in the polyclinic they used chloroform principally as the anesthetic. I was there about thirty or forty days, and I remember seeing two deaths occur in that clinic from chloroform anesthesia.

The idea has occurred to me many times that there is no good reason at all because, being in the South, we use chloroform in preference to ether.

Dr. Benefield—These questions and the discussions of the same are real interesting to me, and, as I regard it, of vital consequence to the medical fraternity. Notwithstanding the points made by the gentlemen in favor of ether, and those to the discredit of chloroform as an anesthetic, I verily believe we oftentimes allow ourselves, as it were, to be swept off our feet along lines of better judgment, by not properly and thoroughly taking into account all vital points along these lines. Now, then, as I understand, these statistics as referred to are correct in a measure, *i. e.*, as seen in the operating room, or, in other words during the course of the surgeon's life. I mean to say during and immediately after the administration of these two anesthetics the statistics may be, and no doubt are, correct; but not correct, by any means, when followed up along lines of untoward effects as sequelæ. Now, without any special reference to post-anesthetic acidosis as an untoward effect of chloroform anesthesia, I wish to state that whatever its evil effect may be, it is during or immediately after the administration of the same, as a rule; whereas, the untoward effects of ether as an anesthetic is not by any means so much seen during its administration, but we are necessarily compelled to follow it up for months and even years thereafter to be able to get a correct account of its untoward effects and treacherousness as a consequence of its administration as an anesthetic.

I think each subject should suggest the mode or form of anesthesia. That is to say, we should not be universal in the use of either of these anesthetics. I do not think chloroform will ever be replaced by ether in a general way, for I am of the opinion that it is

much the safer of the two if we give place for sequela as a discredit to ether as an anesthetic. So I think surgeons should, and indeed will, ponder this matter seriously and thoroughly before they abandon chloroform as an anesthetic.

Dr. Eberle (Fort Smith)—The drift of the discussion of the paper seems to have gone a little away from the intention. It is not whether chloroform or ether is the safer anesthetic, but that there is danger from both of them when given in certain cases, and the lesson I draw from it is that greater care should be taken in giving general anesthetics of any kind, and the time of the anesthesia should be shortened as much as possible, and that we may recognize this condition when it confronts us. As others have observed, and as stated in my own experience, I have seen two cases in consultation in the past, and at the time we could not account for the death of the patient; but since this subject has been brought to our minds and we have had an opportunity to study it a little, we readily see what caused the death of those patients. It is true, both were given chloroform, but the statistics will show that ether is also the cause of post-anesthetic acidosis, and we want to guard against all of them, and shorten our operations, thereby shortening the anesthesia.

A PLEA FOR MORE ACCURATE DIAGNOSIS IN GYNECOLOGICAL CONDITIONS.*

W. A. Snodgrass, M. D., Little Rock.

I wish to apologize to you for the title of this paper, as I feel that I am placing myself in the attitude of the fellow who always says, "I told you so."

In looking back over the records of a great many cases which have come under my observation and care as a general surgeon during the past, it occurs to me that many of us are derelict in our duty to our patients in diagnosing certain gynecological conditions. We are all capable, by the aid of well equipped laboratories and competent pathologists, who are accessible to every doctor in the State of Arkansas, to make a perfect and accurate diagnosis of malignant diseases affecting the uterus.

We all know how important it is to recognize carcinoma and sarcomatous growths early in their incipency, if we hope to benefit the patient by surgical or any other treatment.

These cases have certain subjective and objective symptoms with which you are all familiar. If not, you can familiarize yourselves by reading fifteen minutes in any modern text-book on gynecology. These symptoms should direct you to demand a thorough and complete examination, without delay, to determine the possibility of cancer in any of its forms. Do not wait for the characteristic odor of cancer before you suspect it. This odor is due to sloughing dead tissue, and when that condition is present the disease has advanced very far; in fact, almost beyond hope of a cure by operative treatment. Surrounding structures have been invaded until complete removal, the only known remedy that gives the slightest hope of a permanent cure, is often impossible.

I have frequently seen cases of cancer of the uterus that had never been diagnosed until the poor victim would be almost exsanguinated from continual loss of blood. I also know of a few similar cases who have been under the constant care of their chosen physician during the progress of this dreaded disease, and he had been either too busy or too modest to make the necessary examination to recognize it. Although he had given the patient a number of so-called "good uterine tonics," he had stood by and let the cancer go unrecognized. These occurrences are quite frequent, and are not due to ignorance on the part of the average practitioner, but they are due to the lack of thoroughness in making a diagnosis before treatment is instituted.

The early recognition of cancer is one of the most important duties imposed upon a physician.

There are many other gynecological conditions that are of vast importance to the patient, which, though they do not cause such rapid death as cancer and acute infections, produce long years of suffering and discomfort. I refer to the various forms of uterine displacements affecting the bladder and rectum, interfering with the menstrual flow, producing reflex disturbances, headache, backache, indigestion, etc., that are passed unrecognized until the poor victim is in constant dread from one month to the next of the suffering she will have to undergo during the catamenia. She gives up all hope of ever feel-

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ing well again, and becomes an invalid. We are consulted about many disturbances that occur in the precious women who are mothers and have borne children to perpetuate the race for this and future generations. They are great sufferers as the result of the unfortunate condition that our modern civilization has brought about, producing women who are, from lack of normal anatomical and functional development, unable to perform the function of childbirth without traumatizing, and sometimes destroying functionally, certain parts of the generative tract—lacerations of the cervix and the conditions dependent upon it, and lacerations of the perineum and the subsequent displacements that cause so much trouble and inconvenience, with which you are all familiar.

These lacerations of the cervix, perineum and vagina are more often unrecognized than most of you suppose who have not taken the trouble to examine your patients more carefully. It is the physician's duty to refuse to give advice or suggest treatment for gynecological conditions without first making a thorough and careful examination. The women who have these displacements and lacerations are not sick; they do not need tonics, etc. They are cripples, and should be classed as gynecological cripples.

Such conditions interfere with normal physiological function as much as congenital or acquired deformities do when they affect the arm, leg or foot. No one would think of giving medicine (tonics) to a patient with a short leg or a flat foot with any hope of improving his walking or preventing him from tiring quicker when on a long walk than his companion who has no such injury.

It is our duty as doctors to educate the people until they understand these things. We all know how to make a diagnosis if we would take the necessary time to do it. We are injuring our own reputation, the medical profession, and, above all, we are not giving our patient the relief to which she is entitled; besides, we place ourselves in a false attitude by promising something that we would know to be impossible if we understood the case thoroughly.

It is a well-known fact that a laceration of the cervix is a favorite focal point for cancer to begin its development. Let us all begin now, from this day—never prescribe for a gynecological condition without first making as correct a diagnosis as possible.

DISCUSSION.

Dr. Sweatland (Little Rock)—I want to thank the doctor for his paper. I think we make more mistakes in allowing these conditions to go along without making a thorough examination and diagnosis than in any other cases. We are apt to procrastinate. I want to ask him a question, and would like to have the society discuss the subject. In displacements, say a retroversion of the uterus, where the uterus is movable, no adhesions, with occasional pain at menstrual periods, would you advise shortening of the ligaments for replacement?

Dr. Dunaway (Little Rock)—The paper Dr. Snodgrass has presented to the society is a very important one. It appeals to every one of us, and I only rise to emphasize the sentiments expressed in his paper, and feel that the advice given would be well for us all to heed. The points are well taken in his paper, and I don't think I could add anything to it that would be especially helpful.

Dr. Meek (Camden)—I think this is one of the most important papers I have heard read in the society. It is said that procrastination is the thief of time; but sometimes it is the thief of life. I have had ladies who had passed the menopause come to me and say, "Doctor, I have a slight discharge sometimes." Upon examination I would find that their menses had apparently returned; the discharge was not white, characteristic of fluor albus, but bloody, and it would increase. Complete examination would develop the need of immediate operation for carcinoma of the cervix.

We are prone too much to reluctance, and are willing to postpone these operative cases. We give them a vaginal douche, which will relieve them temporarily, probably; but we do not go to the root of the matter. We ought every time to act upon the doctor's suggestion and make positive diagnosis in all these troubles. Of course, we are justified in demanding a thorough examination, and if a middle-aged or a married woman, we ought always to try to make a thorough examination, to get down to the bottom of the matter. I have seen too many cases that had been in incompetent hands, past the menopause and beyond operative treatment before the physician handling them ever instituted anything like a painstaking and thorough examination.

Dr. Cox (Helena)—There is one point I would like to make. These cases that come to

us, especially young married women that have sustained injuries. They come with diffidence. None of them want to submit to an examination. I think it is our duty always in such cases to use our utmost influence with them to submit to complete examination. Get the case; get a diagnosis, and then it can be handled intelligently.

Dr. Rowland (Arkadelphia)—One little incident I had last summer. A girl sixteen years old, from out in the country about fourteen miles, had a very mysterious uterine disturbance. Two doctors had treated her for quite a while with different uterine tonics, teas, etc. When I suggested an examination it was like bursting a bombshell in the camp. I told them I could not offer any suggestion or treatment without an examination, and insisted upon making an examination or leaving the case alone, so they agreed to it. After I had examined her three or four minutes I was positive that I was dealing with a case of pregnancy. I wished to be positive, and tried every other examination to verify my findings. I was so confident that she was pregnant that I would have been willing to make affidavit to that effect. I told her mother and her brother, and also the girl. They thanked me, paid my fee and went back home. The next time I heard from them they were trying to engage lawyers to prosecute me for slander, but fortunately a subsequent event, occurring about five months later, proved my diagnosis to be correct.

Dr. Lutterloh (Jonesboro)—I think Dr. Snodgrass' paper is one of the most opportune we could possibly have had. To me it looks absolutely criminal for a doctor to prescribe for a woman haphazard when in his mind he almost knows she has a cancer. But through some false delicacy or false modesty he does not ask her to get on the table; or even if he makes an examination, through fear or timidity, or something, I don't understand what it is, the doctor doesn't want to tell her she has cancer, or tell her what is the matter with her. He seems to prefer to keep it locked up in his own bosom, and take no decisive step until it is absolutely too late for successful treatment by anybody. I think we should just put them on the table, make an examination and tell them frankly they have cancer, and the necessity for immediate surgical interference, and instead of letting it run its course for five, ten or fifteen years, operate within two, three or four hours. Tell them if something is not done they are going

to die. Insist upon knowing what you are doing when you have anything that looks like cancer; stick to your demand for thorough examination, and be absolutely certain of the condition before attempting palliative procedure.

I am very much obliged to Dr. Snodgrass for his excellent paper. It is timely and replete with helpful suggestions. I am going to be much more careful in the future in dealing with my patients. I am going to examine them or get some other doctor to examine them for me. If I am refused examination, I am not going to do anything but sit down.

Dr. Snodgrass—I do not know that I can add anything pertinent to the subject. I thank you very much for your liberal discussion, and especially do I congratulate myself that everyone seemed to agree with my view of its importance and the necessity for conscientious and thorough examinations by the practitioner.

A CESAREAN SECTION UNDER UNFAVORABLE CONDITIONS.*

A. G. Harrison, M. D., Little Rock.

I wish to preface this paper by assuring you that it is not my intention to advance any far-fetched ideas pertaining to the modern practice of obstetrics, nor to tire your already overworked brains by having you try to follow me through the long and tedious technic of an elaborate gynecological operation. I merely wish to report an operation which, until recent years, was considered a very hazardous, if not a difficult procedure. This operation was successfully done in a very simple manner, under the most unfavorable conditions.

I was called on the night of January 28, 1908, to see Nettie Hatchett. Not knowing that I was to attend a parturient woman, I carried with me only the usual array of weapons, namely, a hypodermic case, a few calomel tablets and a prescription blank. Upon entering the house, which was a typical negro cabin, with a huge stick-and-dirt fireplace, the flames from which seemed to be exerting themselves to shed comfort and good cheer into the chamber of the lowly and suffering. I found a dwarf negress as black as

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Erebus. Her forehead sloped from the eyebrows to the occipital protuberance at an angle of forty-five degrees, and her teeth glistered like tombstones in a graveyard on a dark night. As I gazed on that supposed human form writhing in the agonies of labor on a very much betousled bed, I thought if Darwin were here he would triumphantly exclaim, "Eureka," rejoicing in the fact that he had found the "missing link." An elderly negro woman was in attendance, and said to me, "Dr. Harrison, dis nigger done been in hard misery all night and all day, and I don't believe she's ever gwine to burf dat chile without help. I didn't want to call no doctor, 'cause two years ago she was dis way and we had fo' doctors, and dey used instruments as long as yo' arm, pulled, cut and butchered her all up, den lef' her, and I had to take dat chile away, piece at a time, by myself." I assumed a very confidential air and assured her that we would find some way by which delivery would be made possible, and that in the end all would be well. I felt that I was master of the situation, regardless of the seriousness thereof, for up to that time I had never met my Waterloo in the lying-in chamber.

I washed my hands in some plain water, with laundry soap, then proceeded to make a digital examination. I found the head normally presented, the os dilated to its fullest capacity and the membranes ruptured. I also found the anterioposterior diameter of the pelvis to be only two inches. Seeing that it was absolutely impossible for delivery to be effected by the vaginal route, I gave a hypodermic of morphin, hoping to give my patient some rest while I collected my thoughts and decided upon some method of procedure.

This, however, did not require very much time, since there seemed but one method to choose, and that was to go through the belly wall after the child as quickly as possible. Acting on this impulse, two physicians were dispatched for to come as quickly as possible and bring all the instruments in their possession which might in any way help to deliver a full formed and well developed child from the belly of a woman with a two-inch pelvic outlet. Several hours later the two physicians arrived, and after making a very careful examination thoroughly coincided with me in the opinion that a laparotomy was the safest and sanest method. We began immediately to assort the instruments, which had to be selected from two or three ordinary pocket

surgical cases. We found five hemostats, a scalpel, a miniature needle-carrier, a pair of small scissors, a few strands of catgut and silk ligatures. While these were put to boiling we gave our patient the most thorough, if not the only, cleaning up she had ever experienced. She was then placed on the dining table and anesthetized.

Before beginning the operation I thought it well to empty the bladder. An effort in this direction proved futile, however, since the tortuous route of the urethra and the pressure of the child's head rendered catheterization impossible, even under complete anesthesia. Here I know that much valuable time was lost in trying to accomplish the impossible. Each physician present seemed to be from Missouri, and had to be shown that it was impossible to catheterize the patient. After all minds were clear on this point, I undertook the operation *per se*.

I began the abdominal incision about three inches above the pubes to avoid injuring the bladder, which I thought to be very much distended, and carried it along the linea-alba to the xiphoid process. As soon as the incision was completed the forcible uterine contractions drove the fundus so snugly into the opening that there was scarcely any danger of external leakage into the peritoneal cavity. However, in spite of this, I took the precaution to wall off the uterus from the cavity with large gauze sponges which had been wrung out of a hot saline solution. This being accomplished, I very cautiously began the uterine incision well above the internal os and carried it to the superior aspect of the fundus. To my pleasant surprise, I found very little trouble controlling the hemorrhage. Three or four hemostats were applied to uterine sinuses and left intact until I was ready to close up. The incision completed and the hemorrhage controlled, I carried my right hand into the cavity, found the child's feet and delivered as a foot presentation by the natural route. With the removal of the child great quantities of amniotic fluid came gushing out. The uterus got away from me in its violent contractions, and the intestines, very much distended with gas and fecal matter, came rolling out in such immense quantities that I began to wonder if the little coon was all guts. I called for plenty of large sponges, which were being wrung out of a hot saline solution by the old negro midwife, and endeavored to protect the viscera as much as possible. I then located the uterus and

brought it back into the opening, and while my assistant maintained it thus I again carried my hand into the cavity, detached and delivered the placenta. Being sure that the organ was empty, I poured two or three gallons of a hot saline solution into the opening at the fundus, which, of course, passed out through the vagina, serving to wash away any septic material. A yard of sterile gauze was then packed into the uterus from the fundus downward. By this time the uterine contractions, which had been continued and forcible, had diminished the incision to about half its original length, and I began closing up as rapidly as possible, since the anesthetist declared the patient could not stand any more chloroform. The uterine incision was closed by several interrupted catgut ligatures passed at quarter-inch intervals, avoiding injuring the endometrium with the needle or including the packing in the sutures. The abdominal opening was then closed with through-and-through silk sutures placed every half inch. This was by no means an easy task, since the entire abdominal viscera seemed to have been highly insulted and were determined to quit their original place of abode in spite of our kind treatment and persuasive measures. In fact, I found myself very much in the position of the traveling shoe salesman, who, when he unpacked his trunks the first time to show his samples, had to wire his house for two more trunks in which to repack them. However, after considerable persuasion, almost amounting to force, I succeeded in closing up, and I cannot compare the aspect which the belly wall presented to anything which will more perfectly convey the idea to your minds than to that of a freshly scraped cotton row. A dry dressing was then applied and held intact with adhesive strips, and this reinforced with several plies of roller bandage, thus completing what the Modern World Dictionary defines as being the most critical operation of midwifery. After a discussion of the operation with my colleagues, in which a score of objections were advanced with reference to the technic, the verdict unanimously rendered was that I was positively guilty of unjustifiable homicide. I stole away to my room feeling that I had disgraced myself and cast unpardonable reflections upon the worthy profession of which I am so proud to be a member. I tried for consolation from my fellow-physicians, but the only encouragement they would offer was, "Well, it is only a negro; if it had been anyone else, of course you never would

have done it." I then listened intently to the gossip going the rounds, but could hear nothing in the least vindicating. As a last resort I eagerly scanned the pages of my text-books, hoping some real surgeon would at least offer some justification for my action; but to my very great chagrin every author referred to said such an operation should never be undertaken except by skilled and experienced surgeons, under the most aseptic conditions.

As the curtains of night drew closer about me, my soul sank deeper and deeper into oblivion, and I cannot find any words which so perfectly described my feelings as those of Cranmer on the eve of his execution, when he said: "I have offended both against heaven and earth more than my tongue can express. Whither, then, may I go, or whither shall I flee? To heaven I may be ashamed to lift up mine eyes, and on earth I find no place of refuge or succor." In my slumbers I could hear the groans of my dying patient; I could hear my fellow-physicians making excuses for such an *ignoramus* as myself being in the profession; yea, I could even hear our representative in the halls of the legislature pleading for medical legislation to protect their people from such butchery. I awakened early the next morning feeling but little refreshed from a night of nightmares and visions of hobgoblins, but very much pleased to find that I had not really been called during the night to have the dying glare of my patient indelibly stamped on my mind to serve as a torture to my conscience throughout the remainder of my professional career. After taking a cup of tea as a bracer, I made my way to the home of my patient, stealthily approached the house to ascertain that there was no clothing hanging on the fence nor crepe on the door, and ventured in. I was very much pleased to learn that my patient had had a very good night's rest, and was feeling so much encouraged that she said to me: "Dr. Harrison, dese old women don't know nuthin about burfing chillun; dat am de easiest way to burf 'em yet." Upon examination I found the pulse 120, the respiration slightly exaggerated, and the temperature 99½. The bladder had emptied itself, but the bowels had not acted, and the belly was very tense. I prepared a saturated solution of magnesium sulphate and ordered a tablespoonful given every hour until the bowels did act. I also ordered a stimulating enema to be given after three or four doses of the solution had been taken.

I had been away from the house three or four hours when the husband came for me in a great hurry. Being exceedingly anxious that this patient, of all others, should recover, I excused myself from some cases which, under other circumstances, would have been of much more importance, and hurried to see Nettie. Upon entering the house, I very readily saw that my patient was in no immediate danger, and there did not seem to be anyone the least alarmed. I was somewhat provoked to think that I had been unnecessarily hurried to the scene of my late tragedy, and asked, "Nettie, what in the devil is the matter with you?" "Dr. Harrison, I'se gwine to vomuck, an' I wants you here to hol' my stummick, so's if sumptin bus'es you can fix it." I at once saw the wisdom of her actions, and, placing my hands on either side of the abdomen, made firm pressure inward and downward, and when I gave the signal, "Ready," she proceeded to give me a shower bath with the stale contents of a very greatly distended stomach. At the same time the foot of the bed served as a dashboard to stop the contents of the bowels. This so much relieved the distended condition of the bowels that I found it necessary, before leaving the house, to apply a few plies of a roller bandage to take up the slack in the old one.

On the morning of the third day I was very much gratified to find the temperature normal, the pulse 105, and the stomach in such a lovely condition that my patient was worrying her numerous attendants half to death for something to eat. On the fifth day I removed the uterine tampon, which had been driven by the contractions well down into the vagina, and on the tenth day the external dressing was removed and the sutures taken out. I found the belly wall had assumed its natural contour and the wound had healed perfectly by first intention, there being not even a stitch abscess. Two weeks from the date of the operation the patient walked about the house, and in less than four weeks I met her making her way to the depot, and she informed me that she was going to a neighboring town to a circus to exhibit the finest negro boy that was "never" born. Only a few days ago I was driving with an Irishman by the name of Kinnehan, and we met Nettie and her son, Julius Cæsar Horatio Hatchett, as healthy as the healthiest, and as happy as if they had good sense. Mr. Kinnehan, wishing to compliment me on my success in the case, said: "Be Jasus, doctor,

and it be you who has dom fine luck wid your butcherin'."

In conclusion, I wish to assure you that it is not the purpose of this paper to influence any young, inexperienced M. D. to whet his pocket knife and go about defying old Dame Nature, or to give him the slightest provocation to dissect a Julius Cæsar from the belly of a defenseless woman. I would no more advise such actions than I would advise one of you gentlemen to step into the arena and flaunt the red flag in the face of the vicious bull. On the other hand, should you find yourself hemmed in by a combination of circumstances, as I was, you certainly could not be advised to throw yourself upon nature's mercies and resources. For pathological conditions in such cases have robbed nature of these, her richest charms. Take the bull by the horns and grapple with him as Ursus did for Lygia's life, for the goddess of fortune oftentimes awards a crown of victory to the brave and conscientious physician, even though he be unskilled, inexperienced, and handicapped by unfavorable conditions.

CESAREAN SECTION, WITH REPORT OF A CASE.*

George S. Brown, M. D., Conway.

The operation of cesarean section is the removal of the child from the mother's uterus before or after death of either mother or child, by an incision through the walls of the abdomen and uterus. It is justified where the pelvis is so obstructed, either by contraction or growths, as to be too narrow either to admit of delivery of the child alive or by craniotomy, or in transverse presentation, where the shoulder, by neglect, has become impacted in the pelvis and the uterus contracted and so firmly retracted that it is impossible to turn the child, and where the condition of the mother is so bad that a prolonged operation is not warranted, for the reason that the danger to the mother is greater in removing the child in pieces through the lacerated vagina than to open the abdomen and remove it in that way.

The operation is one of the most formidable in the domain of surgery, and yet one that is not difficult to perform. Since abdominal surgery has arrived at its present

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state of perfection the operation has lost much of its seriousness to both operator and patient. "We have found that the high death rate which used to follow it was not due so much to the operation as to the delay in performing it." The operation will have a high death rate when performed on infected and dying women. Yet a life may occasionally be saved in the most extreme cases by cesarean section.

CASE.—Mrs. J., age twenty-eight years; colored; medium size; fairly muscular; mother of five children; last, three years ago; labor was always normal. On the afternoon of February 2, 1909, she was taken with labor-like pains, and a physician was called. Upon examination she was found to be in labor; membranes were ruptured about 10:00 a. m. Soon after this all pains stopped. The diagnosis of the presentation was not positive. The physician remained until 12:00 o'clock, and went away, giving instructions to call Dr. C. A. Mattison, a colored physician, if anything was needed.

She had pains occasionally, but was not examined again until the morning of February 5, when an arm was found extending from the vagina and the child dead. The former physician was recalled, in consultation with the colored physician. A third physician was then called. The patient was found to be in a septic condition; temperature, 103.5; pulse, 120; frequent chills. An effort to replace the arm and turn the child failed.

She was given chloroform; again version was found impossible. The prolapsed arm was then amputated at the shoulder joint, but introduction of hand and turning found impossible. After an effort of three hours it was thought best to refrain from further effort at delivery.

On Saturday morning, February 6, four days after onset of labor, I was requested to see her. I found her profoundly septic. A stinking discharge from the vagina was noticeable almost to the gate. Temperature was 102, pulse 125 to 130, weak and irregular; rigors every few hours; vomiting a dark greenish material and suffering excruciating pains.

Examination revealed a transverse presentation; shoulder tightly packed in pelvis; head to the right, resting upon right ilium, the back in front. Child dead; epidermis peeling off. She was given chloroform and an effort at version was made, which failed. Forceps were, after much difficulty, applied to back of head, but child could not be moved.

In the extreme bad condition of the patient it was thought best not to try delivery through the vagina. She was placed on her back and very hurriedly, though imperfectly, prepared for the operation. It was impossible to do an aseptic operation in the negro shack and under the dirty surroundings, which were as bad as one could well find.

OPERATION.—The vagina was cleansed, pubis shaved, and the abdomen hurriedly washed. The incision was made extending from two inches above the umbilicus to about five inches below. The abdominal wall was opened with two or three sweeps of the knife. The uterus was brought outside of the abdominal cavity, and a rubber tube passed around at the neck, with which hemorrhage could be controlled. The intestines were kept out of the way by means of hot towels, and the uterus packed around with them to prevent the septic discharge entering the abdominal cavity.

The opening was made in the uterus from a point between the level of the Fallopian tubes as far down as the contractile ring, or about six inches. The uterus was opened rapidly, the child grasped by the feet and delivery was but the work of a moment. The cord was cut. On passing the hand into the uterus the placenta was found already detached, and was easily removed. Aseptic ergot was given hypodermically, and the elastic tube removed. The uterus was quickly wiped out with wet bichlorid gauze. The cavity of the uterus was at once packed with iodoform gauze, a portion of which was allowed to pass downward through the cervix and into the vagina for drainage. About ten silk sutures were then inserted, entering one-half inch from edge of incision, through the peritoneum and muscular wall of the uterus, and emerging just above the mucous lining of the uterine cavity. The peritoneal coat was more perfectly closed by an additional row of fine silk interrupted sutures.

The abdominal cavity was mopped out with sterilized gauze. The abdominal wall was closed by three layers of sutures. The total time from first incision to placing last stitch was forty minutes. The patient was given normal salt solution by the rectum and quickly put to bed. Her condition was extremely bad, and a very unfavorable prognosis given.

For about forty-eight hours there was but little change in her condition; temperature and pulse remained about same as before

operation. At about this time a slight improvement was noticeable. She made a very slow but complete recovery, and today is enjoying good health, being an active washer-woman in the town.

I was rendered valuable assistance at the operation by Drs. Westerfield, Dickerson, Muse, J. F. Brown, C. A. and E. W. Mattison.

DISCUSSION.

Dr. Meeks (Camden)—I think Dr. Harrison did a successful cesarean section, as well as I could hear, since it was done amid extreme difficulties, and the mother and child both lived. I congratulate him on the result. As he said, I think no man who is a doctor, under the most adverse surroundings or unhygienic environment, ought to be deterred from performing a cesarean section when it is absolutely necessary and when he cannot do better.

In an old work on obstetrics, written probably sixty years ago, the author outlines the salient features of the Roman method of procedure. He tells us of a Hungarian sow gelder whose unmarried daughter was delivered several times in this way. About the fourth time she came to him, in completion of the operation, he removed both ovaries and sewed up the uterus, so she could not have any more mishaps! I think, under the peculiar circumstances of the case and the adverse surroundings, the doctor might have been justified in pursuing the course of the disgusted Hungarian. I think we really ought to emulate his example, when it is necessary, by resecting the tubes to forestall a recurrence.

Dr. Rinehart (Camden)—I congratulate the last gentleman upon the successful operation by cesarean section under those extreme difficulties, but I could not have had the courage to operate under such adverse circumstances and extreme conditions, apparently, which the patient was in; and, the fetus being dead, I would have made an attempt to get the remainder of the child out by piecemeal, or evisceration of the child, which would, in my opinion, have been safer to have attempted, rather than the cesarean section.

Dr. Sweatland (Little Rock)—I would like to ask the doctor about the silk sutures you said you used. Would you advise silk sutures always?

Dr. Brown—No. Sometimes I would use one, sometimes another. Frequently I use

catgut, but that is the only case of the kind I ever had in my life.

Dr. Cox (Helena)—I certainly enjoyed both of the papers. One thing taught us is that it can be done under very adverse conditions and with a very small amount of room. Dr. Harrison brought out the fact that it can be successfully done. We may meet our Waterloo sometimes as he says. If we do we can convert a very complicated condition into a successful operation.

Dr. Harrison—I haven't anything to say. It was an imperfect operation by an imperfect operator. We are forced sometimes to do more than we would when we have time to think it over.

Dr. Brown—I have nothing to add, except regarding removing the child by piecemeal. The patient's condition was so terribly bad that I didn't think she would live to go through with it much longer than she would by the cesarean section. We didn't think she would live until we got through it, anyway, but thought we would give her that chance and do it quicker and easier, and perhaps with less danger to her than we could otherwise—there was so much laceration about the vagina. But for her extreme condition, I would have preferred trying the other way; but in that condition it would have taken a good deal longer, I am sure, and we thought she could not possibly stand it.

PREVENTABLE BLINDNESS.¹

J. G. Watkins, M. D., Little Rock.

Preventable blindness, as its name implies, is due to conditions amenable to treatment.

For several years there has been much said and written concerning preventable blindness, and especially one of the causes. In the eventful year 1881 it was that Prof. Crede, director of the Maternity Hospital connected with the Leipsic University, announced his significant discovery that a single drop of a 2 per cent solution of nitrate of silver instilled into the conjunctival sac at the time of birth would destroy the specific organisms, and thereby prevent the development of a disease of the eye that has and still furnishes more than 25 per cent of the inmates of the blind asylums and institutes of our larger cities. But it is not with the condition in

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the larger cities that this paper is principally concerned; neither is it ophthalmia neonatorum, which has been discussed extensively at the meetings of this association, concerning the prophylaxis of which all of you are familiar. It is to the condition in our own state and with our own people that I wish to invite your attention.

We have in this state an institution known as the Arkansas School for the Blind, maintained at an annual cost to the state of \$50,000.00. In this school there is an average annual attendance of 175 white pupils. During the year 1907-1908 there were 193 pupils, of whom 62 were totally blind, and of those not totally blind there were 131. Of those totally blind, three are blind as a result of ophthalmia neonatorum; 36 are blind as a result of trachoma; the other 23 are blind from various causes. Almost all of those partially blind, and under treatment, are there as a result of chronic trachoma. So you see there is something in this state that requires your attention as much as does ophthalmia neonatorum or gonorrheal ophthalmia, a condition that is widely distributed over this state and contrary to ophthalmia neonatorum or gonorrheal ophthalmia, in that it is quite prevalent in the rural districts, whence most of the inmates of our charitable institutions come. The subject to which I wish to invite your attention is that of trachoma, or granulated lids, often designated by the laity as red sore eyes. It is an infectious disease, primarily affecting the inner surface of the eyelids, and especially that of the upper. The etiological factor, I believe, is pretty generally conceded to be the so-called trachoma bodies, described by Prowazek and others. These bodies appear not only in the epithelium, but in subepithelial tissue, the lymph spaces beneath, as well as in and between the cells of the follicles, as evidenced by the disappearance from the epithelium after a few days' treatment, but soon reappear if treatment be withdrawn. They are more numerous in the acute and untreated cases; and in trachomatous pannus, the most seriously infected epithelial cells are found in that uneven corneal zone just in advance of the vascularized pannus. These bodies have not been classified morphologically, but it is probable that they are allied to the protozoa.

Trachoma is very insidious in the beginning and has usually been present for a con-

siderable time before one discovers there is anything present at variance with the normal state of affairs. In the early stage of the disease the conjunctiva presents a slightly hyperemic appearance, with minute yellowish spots scattered over its surface. The discovery at this stage is usually accidental, as it is usually discovered in this stage in institutions wherein it is the routine practice to examine carefully the eyes of all inmates, for at this time the patient suffers very little, if any, inconvenience from his condition. However, it is very important to recognize the condition in this early stage, as it is then that it is most amenable to treatment and usually gets well, leaving behind no evidences of the infection. Unfortunately, the greater number of these cases are not seen in the beginning, and more unfortunate still, a large proportion of them are unable financially to provide themselves with treatment for a sufficient length of time.

It is not long, however, before this mild stage is superseded by a more pronounced one, wherein the conjunctiva presents the roughened granular surface, whence comes the name by which it is popularly known. This stage is usually associated with more or less irritation, photophobia, lachrimation, or mucopurulent or purulent secretion, local pain and corneal complications. The corneal complications most likely to be met with are ulcerations and pannus. At first the ulcerations appear as small infiltrations in the corneal epithelium that soon break down, forming the corneal ulcers, which usually heal if proper treatment be instituted, leaving behind no evidences unless the destruction of tissue extends below the epithelium into the deeper layers of the cornea, in which event we find the location marked by the presence of scar tissue. Sometimes these ulcers perforate the cornea; at other times they show more of a tendency to spread laterally, and heal, leaving behind an opaque cornea.

Pannus, a complication of trachoma, is a name applied to a condition of the cornea, marked by the presence of blood vessels in the superficial layers of the cornea, and continuous with the conjunctival vessels. Just why these vessels should develop in this manner does not seem to be definitely determined. Some claim that it is due to friction from the granulations of the conjunctiva coming in contact with the corneal surface. Others are of

the opinion that it should not be considered as a simple traumatic irritation. It does not seem altogether improbable that it is due to an implantation of the trachoma bodies in the corneal tissue.

Another complication that one is likely to encounter is a form of atropin irritation. I have seen two such cases—one in the case of an inmate of the blind school. This boy was totally blind in his left eye, and almost blind in the right eye from a secondary cataract caused by a perforating ulcer of the cornea. After an examination. I told him I thought an operation would enable him to see. He consented, and I did a needling, after which I ordered atropin to be used. For a time the pupil remained dilated, and very little circumcorneal injection was present. However, there came a time when the iris did not respond to the action of the atropin, and the circumcorneal injection became intense, with cloudiness of the cornea, and with the appearance of yellowish white infiltrations, resembling somewhat in appearance that of phlyctenular keratitis. Think perhaps the solution of atropia was not strong enough, I ordered a stronger solution, with no better results. I then stopped the use of the atropin and dusted a little mild chlorid of mercury into the eye, and ordered it repeated the next day. On the second day, when I saw him, the condition of his eye was very much improved, and on the fourth day the cornea had cleared up, and circumcorneal injection had entirely disappeared.

The other case that came under my observation was that of a man who had been troubled continuously with trachoma for a period of six years or more, and had been under the treatment of physicians, or had treated himself at home, during this time. All the while atropin was one of the remedies used. When I saw him he had made up his mind to have the eye enucleated, believing it would never get well. When asked about this procedure, I told him it was not only not necessary, but that I would not do it if he wanted me to. At once his lids were treated daily with applications of nitrate of silver. As his cornea was very cloudy and pupil contracted, I ordered, as usual, a solution of atropia, four grains to an ounce of distilled water. After several days' treatment, with no improvement, and with the use of a stronger solution of atropia, with the presence of

cornea of yellowish-white infiltrations—some of them beginning to break down—I discontinued the use of the atropia, and tried, as in the other case, the insufflations of calomel. The next morning I was very much gratified to find that the ocular injection seemed a little less. These insufflations were continued once a day, until in about a week or ten days' time he expressed himself as being free from pain and able to see better than he had for two years.

The danger of this disease consists not so much in the presence of the inflamed lids, but in the complications and sequelæ. Sequelæ that are likely to follow complications are entropion, trichiasis and distichiasis. For the early stage, treatment should consist of some mild antiseptic solution. In a great many cases a lotion of the bichlorid of mercury, 1-5,000, seems to have a very happy effect. Later, when the granulations are large, and there is considerable moisture, I am partial to the application of nitrate of silver in the strength of ten grains to the ounce. When there is not so much discharge, the cupric sulphate pencil does very well. For the complications pannus and ulcers of the cornea, in addition to the treatment to the lids, the pupil should be dilated with atropia, and hot fomentations should be applied. Oftentimes the sight can be greatly benefited, and the patient made more comfortable, by some simple operation. Treatment must be carried on without relaxation until the condition is relieved. Such prophylaxis should be used as will lead to early recognition and prevent the spread of the disease, and it is to the harmonious and persistent efforts of the country practitioner and the rural school teacher that we must look for relief.

DISCUSSION.

Dr. Moulton (Fort Smith)—The paper is very timely. Something ought to be done to enlighten the public more than has been done on the danger of the contagiousness of trachoma. It is very fatal to sight, and those of us who see many people afflicted with trachoma know what a terrible handicap it is to a large proportion of the rural population. It is an extremely chronic disease. The average individual, the average country man who becomes afflicted with it, never gets well for the reason that he tries one doctor a little while and gets a little better, and he thinks he is

getting along well enough and quits. His eyes get sore again, and he thinks that doctor did not cure him, and he goes to another one, who treats him a little while. He doesn't get any better and he goes to another one, and then he quits and goes along suffering and half seeing, perhaps for years. Finally, although the trachoma bodies become absorbed, he is left in a condition of semiblindness. And perhaps after years he goes practically blind. That's the result in lots of cases. And those very individuals are indifferent to their personal habits in their families, and the disease spreads from one member of the family to another and spreads from one family to another family, so that the ravages of this disease are appalling among the rural population.

Mr. Harmon, of London, gave this subject a great deal of study and has written a good deal about it. He says that trachoma is an incurable disease in the sense that, although the trachoma bodies disappear in time, some traces are left; sometimes without much damage to sight, sometimes with damage to sight. There is always some trace of the disease left in the conjunctiva or in the cornea. In London they have established some schools, one or more, I don't remember just how many, for the instruction of trachomatous children. It is a condition, that when children are admitted to these schools, which are supported by the public, that they shall remain in these schools for at least two years, where they shall receive not only instruction, but constant treatment.

The fact that the trachoma bodies tend, in a large number of cases, to disappear makes it practicable, in a large proportion of cases, to secure a practical cure. Consequently, it is not meant that physicians shall tell their patients that trachoma is an incurable disease, because if you do they might be led to stop the treatment. I tell my patients that I can cure them. You should tell them you can cure them if they will carry out your treatment and stay with you until you tell them they are well.

Sometimes you have to do one thing, and sometimes you have to do another. It may take you three months, and it may take you two years to get that patient well, but you must stick to it, and it's better for the patient to stick to one doctor, and you should tell them that. And, if they don't like you, tell

them to get another doctor that they do like. I tell them if they don't think they are going to like me, to get some doctor they have confidence in and stay with him until they are cured.

Dr. Watkins—Speaking of the schools in London, and the routine practice there, the eyes of the children in the public schools are examined for the presence of trachoma. While I was there I had an opportunity of seeing a great many of these children, especially those in the Metropolitan Asylum School, under the direction of the Metropolitan Asylum Board. The routine practice there was to examine the eyes of all school children and put those affected under treatment for trachoma. Something has been done in the treatment of pannus by the X-ray. Mr. Collins, of London, was quite enthusiastic about it a few years ago. As far as I know, I haven't seen any better results from that than from the use of the usual remedies in the treatment.

GUNSHOT WOUNDS OF THE ABDOMEN.*

R. C. Dorr, M. D., Batesville.

In writing on this subject I have no idea of writing a classic paper, but only to call your attention to a few practical points that may be of interest to you in emergency cases.

Wounds of the abdomen are dangerous in proportion to the amount of injury to the viscera.

For anatomical reasons, as a rule, injuries of the upper are less dangerous than injuries to the lower, for the reason, it is not so apt to injure the viscera.

Penetrating wounds from the front are less dangerous than wounds from the side, for there is less danger for a number of wounds in the viscera. Exploration of the wounds, even aseptically, to determine the question of penetration is absolutely contraindicated, for if the surgeon finds that the wound passed into the abdomen, he must then do a laparotomy. And if he is unable to enter the abdominal cavity through the wound, the failure is no evidence that the penetration has not occurred.

The two things one must keep in mind in the treatment of these cases is hemorrhage

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and sepsis, and their consequences, such as immediate death from loss of blood and remote death from inflammation.

The first would call for immediate laparotomy in all cases. The second would also call for immediate laparotomy, unless the environment and want of proper help would in the judgment of the surgeon be more dangerous to the life of the patient than a few hours delay, necessary to procure proper environment and help.

Wounds of the Large Intestines.—These are not nearly so serious as wounds of the small gut. In forty-seven cases reported in the Boer War, thirteen died; mortality 27.7 per cent. In wounds of the large intestines the death rate is about the same whether the intestine is wounded intraperitoneally or extraperitoneally. An extraperitoneal wound almost invariably results in fecal cellulites, which goes on to suppuration or septicemia. The death rate in wounds of the bladder and rectum are about the same as in the large bowel.

In the Boer War thirty-five cases were reported in which the small intestines alone were wounded; of these 62.8 per cent died. The fact that one-third of the cases recovered is evidence that nature may be relied upon to a certain extent. When one considers the extreme danger of peritonitis following such injuries, the fact that so many recoveries occurred is surprising. In the thirty-five cases referred to, laparotomies were done in eleven, and of these seven died.

The surgeons in the Boer War all report as convinced that operation is justifiable only when aseptic technic can be employed, or where the patient would unquestionably die if the operation were not done.

Of course, in immediately operating on these cases the main point is to close up the opening in the viscera and the control of the hemorrhage. In some cases it may be necessary to make resections and anastomosis, and drain, if in the judgment of the surgeon it is necessary when injury to the viscera is extensive. If you wait until general peritonitis sets up, you operate to close up the opening and drain the peritoneal cavity.

I know of no exception in these where you would not use drainage, and I mean rubber tube drainage.

In these cases be sure and do not disturb the viscera, except when it is necessary to close the opening; for if you do, you break down the safeguard of the patient. The after-

treatment is Murphy's slow salines per rectum, and nothing by the mouth.

Some authorities claim that if you wait until the third day to operate it is hardly worth while operating. But that rule does not hold good now, as the following case, which I briefly report, will show.

In December, 1909, on Sunday, I was called to see Mr. B. at Elmo, Ark. who had been shot with a shotgun the night before at about eight o'clock; size of shot, No. 3. He had between fifty and sixty shot in his legs, penis, scrotum and lower abdominal wall. The patient had some fever and a bad cold. It was hard for Dr. Wilson, the attending physician, and myself to tell whether these shot had penetrated the lower abdomen. He had wisely refrained from probing to find out whether they had penetrated the cavity or not.

Having no help but ourselves and the environment being bad, we decided to wait for developments. I returned home. On Monday night Dr. Wilson called me again; said our patient still had fever, with a puffed-up, board-like abdomen, vomiting green material, and that he was satisfied that he had peritonitis. I went to see him Tuesday morning, taking our nurse with me. We operated at one p. m. We found the lower abdomen full of pus, with plastic exudates all over the same. I found an opening in the small bowel, by pressing on it, to find where gas would escape; this I closed up, putting a rubber tube drain low down in the pelvis; I stitched up the abdominal wound close around the tube; then started Murphy's slow saline and raised head of bed ten inches.

This patient made uninterrupted recovery and is living at present date.

PRESIDENT'S ADDRESS — MEDICAL ORGANIZATION.*

M. L. Norwood, M. D., Locksburg.

It has always been customary for the presiding officer of any meeting to have something to say. In compliance with the custom I shall for a few minutes discuss "Medical Organization."

This is preëminently an age of organization and coöperation. Nearly all professions and all trades are now organized. Most commercial organizations have for their object the making of money, having but little

*Read before the Sixth District Medical Society, at De Queen, December 6, 1910.

regard for those engaged in other occupations, while city, county, state and national medical organizations have for their purpose the prevention of sickness and the relief of suffering humanity, with only an occasional thought or reference to the commercial side of the profession. Not long since a man asked me: "Why do doctors organize? Is it not for the purpose of raising fees, establishing dead-head lists, etc.?" My reply was that we did not do as much of this kind of business as imagined, not as much as we should for our own good; but that we assembled in convention "to go to school to each other." That here we learned how little we knew and how much we had to learn. That we learned for example how to make an early diagnosis of tuberculosis while there was yet hope of recovery; that we learned best when to operate and when not to operate for appendicitis; that here we learned to know the other fellow both professionally and socially. I want to say right here that this feature alone has repaid me, and my patrons especially, for all the time and money lost while attending a medical meeting. It is important to know when you need help, and equally as important to know who is capable of rendering you this assistance. I believe the general practitioner, the family doctor if you please, not only should, but is, doing more and better work than ever before. That he has a better general knowledge of medicine than any other doctor; that his place will not and can never be filled by specialism. Still the fact remains that even though he may have and does generally have the ability to operate most cases, he has not the facilities for operation, nor for the after-treatment, therefore he must of necessity refer some of his cases; hence it behooves him to know of his own personal knowledge to whom to refer them. How else can he learn these men of ability unless he meets them in medical meetings? He does not learn them and estimate them alone by papers read or reprints sent out for advertising purposes, for he frequently learns as much about their ability from conversation with them as from public utterances. If a practitioner knows he has not the facilities, though he has the ability to care for a patient, and that patient is paying him for advice, it is plainly his duty to refer it to some man who has. By so doing he may have less money, but he will have a clear conscience, which is better than money. When you do refer a case do not under any consideration ask for or accept a division of

fee, but you should have an understanding with the specialist concerning the fee. The surgeon may know more about what the operation is worth than we do, but we know a great deal more about the ability of the patient to pay, and therefore should be consulted about the fee. Unless you do this and the patient is charged more than he expected, he is liable to think you received a division of the fee for the reference.

As to Fees.—As a rule the surgeon has a price and usually it is a fair one. How about the general practitioner? Are we being sufficiently paid? I think not. Owing to the increased cost of living, I believe we should, in order to do justice to ourselves and families, raise our prices in proportion to other professions and callings.

Medical Law.—Time was in this state when there was no law governing the practice of medicine. Later all that was required was for a man to prove by just anybody that he had been practicing five years. Then came county boards and medical examiners. So if an applicant failed in one county he went to another, and so on, until he found some board that would grant him a certificate, then he went anywhere in the state he pleased to practice. Then the legislature in its wisdom gave us a State Board that did its duty for two years, but failed to pass so many cousins, brothers, nephews and uncles of the representatives that they very promptly repealed the law and put it back to county boards, but required each applicant to be examined in each county in which he practiced. Then organized medicine, who up to this time had only faint-heartedly worked for medical legislation, got busy. The result was the law of 1903, creating State Boards of Medical Examiners, which was not perfect, not exactly what was wanted, but was better than any previous law. This law, through the efforts of organized medicine, was amended by the last legislature, permitting reciprocity, requiring graduation before examination, permitting the Board to revoke license for different causes—as inebriety, crime, and advertising to cure chronic and incurable diseases. This law has been enforced and has stood the test of the supreme court. By its enforcement many ignorant and innocent people have been saved their hard-earned dollars and frail and suffering bodies, and several advertising quacks have met their just reward, and many others have fled to parts unknown. In this connection, I desire to say that every senator from

this district and every representative from this county have always voted and worked for whatever medical legislation we have asked for, and the Sevier County Medical Society, as well as organized medicine all over the state, appreciate the work of Senators Norwood, Collins and Wingo and Representatives Lake, Holman, Isbell and Jones. So we are satisfied to let this law rest for awhile. But the Arkansas Medical Society at its last meeting in Little Rock recommended to its committee on Medical Legislation to work for certain needed laws, among them an appropriation for a State Board of Health, so it can accomplish something. Arkansas now appropriates money to fight cattle ticks, but nothing to fight smallpox and other epidemics that may invade our state, to say nothing of the deadly mosquito which kills more people in Arkansas than all other poisonous things of earth or air. The Board of Health at present has not and has never had enough money to buy postage stamps, and they need some to get information and education to the people, relative to the mosquito — the sole cause of malaria; and information about tuberculosis that annually takes away a large percentage of all people who die. These are only some of the needed laws that we must have. This Committee on Medical Legislation does its work without price, hence, no selfish motive prompts them, and let me suggest that you individually and collectively get busy and see your senators and representatives and ask them to vote for the measures this committee asks for, and when these bills are introduced write your senators and representatives, "lest they forget." If any of you have any suggestions, make them to the committee and work through them, for by co-operation and coöperation only can we succeed. There are over 3,000 doctors in Arkansas and should each one draft a bill the

phraseology of no two would be the same, and should you present several different bills individually to the Senate and House they would not know which one to support. Each man would support the one his local doctors wanted, and the result would be confusion and nothing done. The members of this committee are Dr. Murphy of Brinkley, Dr. Eberle of Fort Smith, and myself. Dr. Dorr of Batesville and Dr. Morgan Smith, respectively president and secretary of the State Society, are of course ex-officio members. Do not hesitate to make suggestions to them.

In conclusion—I have tried to show that this is an age of organization, therefore medical organization which is unselfish and not overly commercial.

That medical organization helps us to know ourselves.

That medical organization helps us to know the other fellow.

That medical organization helps us to know how to refer cases when needed.

That medical organization helps us to know to some extent how to regulate fees.

That medical organization helps us to get better medical legislation.

And in all of these five helps the people generally are benefited more than the doctor. What shall I say of the doctor who takes no part in medical organization? (Well, this is a parliamentary body and does not permit profanity.) To the honest, conscientious doctors, who are working for the betterment and upbuilding of humanity, for the prolongation of life and happiness of each other and the people as a whole, I can only hope that when through life they have serenely passed and landed their frail barks beyond life's sea, that their eternal lot will be cast among those who know no sorrow and can feel no pain.

I thank you for your patient hearing.

THE JOURNAL

OF THE

Arkansas Medical Society

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Edited by
C. P. MERIWETHER, M. D.

307-8 Southern Trust Building, Little Rock, Ark., to whom all communications should be addressed.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

President Dorr, Secretary Morgan Smith and the Legislative Committee, composed of F. T. Murphy, J. G. Eberle and M. L. Norwood, have been working hard on a Board of Health bill, which is now in the hands of the Judicial Committee of the Senate, who have reported favorably on the bill.

Every member of the society should write their senator and representative at once to support this bill. The Legislative Committee has done good work, but they need your support.

The thirty-fifth annual session of the Arkansas Medical Society will be held at Fort Smith on May 2, 3, 4 and 5, 1911, which is a little more than two months away. Now is the time to make up your mind that you are going to attend, and shape your work with

that in view. It has been about twelve or fourteen years since the Sebastian County Medical Society entertained the state society. Fort Smith, during that time, has more than doubled her population, and it is a live, wide-awake little city; all of her citizens are boosters, and her medical profession will endeavor to make this one of the banner meetings of the state society, and it is hoped that the attendance at this meeting will be the largest in its history.

There has been introduced in our state legislature a bill known as the Optometry Bill. "Optometry is a new word recently coined by the American Association of Opticians." The bill provides that all spectacle peddlers, opticians, glass grinders, etc., who have been following their vocation for the period of two years will be exempt from any examination, and will be licensed as optometrists, but in the future all opticians will be forced to go before a board (who are to be appointed under this law) and pass a satisfactory examination on the so-called new profession, (?) "optometry." From the report of the special committee of the Massachusetts Medical Society on Optometry, we quote as follows:

"Optometrists are simply opticians. Their proper field of work is the making and adjusting of glasses in accordance with the directions of the oculist. They are not physicians, and hence are not competent to recognize the numerous diseases of the eye, and much less competent to treat the same efficiently and safely. They profess to examine the eyes for refractive errors and to send all cases of disease to the physician. This claim means that they are able to diagnosticate affections of the eye, a claim that has little or no foundation in fact.

"It is needless to state that the profound relation existing between ocular fatigue and grave neurological disturbances is to these people as a sealed book. From their training and experience they can have but a smattering knowledge of one of the most important, as well as most intricate, branches of medical practice. Hence, as might be expected, patients having deep-seated intraocular disease are not infrequently treated with glasses until the time for successful results has passed never to return. These unfortunate occurrences are due to the inability of the optometrist to make a correct diagnosis. He treats all diseases of the eye with glasses,

which is as pernicious as it is to treat all affections of abdomen by massage or osteopathy!

"The bill hereto proposed by the optometrists would grant a license to practice under the seal of the state to all opticians who had been in business two years. The leaders of the movement are undoubtedly seeking an opportunity under the apparent sanction of the state to practice ophthalmology, one of the most important branches of medical science, without an adequate knowledge of training. Having a license to examine eyes and adjust glasses, it will be the most natural thing for them to enlarge their field of endeavor and treat the eye for all sorts of affections, to the great injury of their patients.

"A license from the state, together with their specious degrees of 'doctor of optics,' 'doctor of optometry,' which some of them use and which are generally obtained through correspondence courses, will enable these people to place themselves before the public upon the same footing as the educated members of the state societies, who devote their energies to ophthalmology. The movement is most pernicious, and will be productive of harm to the public. It will tend to place ignorance upon a legal level with knowledge, training and experience, and for this reason alone it should be strongly opposed by every one who appreciates the importance of a high standard in the medical profession and in the laws of the commonwealth."

From the Bulletin of the American Medical Association, November 15, 1910, we submit the following arguments used by the optometrists, followed by a brief reply to each assertion.

It is safe to assume that opticians will repeat their past arguments before legislatures in 1911. These are:

1. That optometry has no connection with medicine.

2. That optometrists do not use "drops" in their work.

3. That they are learned in the science of optics, of which the physician is ignorant.

4. That they refer cases of disease of eye to oculists; and, finally,

5. That the passage of such law will protect the public from the dishonest traveling vendor of eye-glasses.

A brief reply to each assertion is:

1. A medical training is absolutely necessary for a proper examination of the eye, on account of the intimate relation between that organ and other parts of the body.

2. All, or nearly all, medical authorities assert that *always in children*, and often in adults, the use of a mydriatic is necessary for a proper examination of the eye. Such drugs may be used according to law by those who have qualified for medical practice; but the optician has not so qualified to legally use drugs, hence, not only denies that any necessity for their employment exists, but asserts that their use is both needless and harmful.

3. To have an expert knowledge of optics requires a liberal education, and it is safe to assume that a far greater proportion of physicians than of opticians has secured a high school and college education with its accompanying training in physics.

4. To refer cases of diseased eyes to an oculist indicates an ability to make a diagnosis, which is the most difficult part of medical practice. How the layman can differentiate between health and disease is beyond our understanding.

5. The passage of an optometry law fails entirely in what should be its object—the *safeguarding the health of the people*. The traveling optician is not eliminated; on the contrary, he secures his certificate as "Registered Optometrist," which practically carries with it a guarantee of the state as to the excellence of his work. Add to this, as can easily happen, a "Doctor of Optometry," secured from some correspondence school, and it requires no stretch of the imagination to picture the awe which a peripatetic practitioner of this new "profession" may inspire.

If he were a *licensed* or *registered* optician, the case would be different, for the people would understand these terms. The optometrist, however, will find it profitable to explain that he is more than an optician or oculist—that he is a member of a new "profession"—optometry—and the seal of the state will lend weight to his words.

Other professions (the ministry, law and medicine, for example) make education a prerequisite for their work, but "optometry" reverses all that, as shown by the pamphlets issued to members by their national society.

DEATHS OF CHILDREN IN DETROIT.

INVESTIGATION SUSTAINS STATEMENTS OF THE CENSUS BUREAU.

An investigation of the alleged incorrectness of the Census Bureau's recent statement of the proportion of deaths of infants in Detroit, Mich., as published in the official bulletin on mortality statistics for 1909, has been made by Dr. Cressy L. Wilbur, the bureau's chief statistician for vital statistics, acting in conjunction with a representative of the Secretary of State for Michigan.

The Detroit health authorities claimed subsequently to the issuance of the bulletin that only 20 per cent of the deaths at all ages in 1909 was of infants under one year, notwithstanding the fact that the census compilation prepared by Dr. Wilbur gave a ratio of 29 per cent. This excessive proportion caused much surprise in Detroit, and some of the local papers and the city health authorities insisted that the bureau's figures were incorrect and injurious.

Dr. Wilbur himself went to Detroit, accompanied by the Secretary of State's representative, and after a thorough inquiry he reported to Acting Director Willoughby today that it is admitted now by the Detroit health authorities that the census figures are entirely correct and that errors which had been made in the local compilation made it appear that 20 per cent was the proper proportion. It was stated by Dr. Wilbur that Health Officer Guy L. Keifer of Detroit has undertaken to reform the system used in his office, so that the results hereafter will be strictly comparable with those given out by the Bureau of the Census.

The census statistics relative to the deaths of infants in Detroit were compiled from the official transcripts of deaths sent to the bureau by Hon. Frederick C. Martindale, Secretary of State of Michigan, who is the State Registrar and who receives monthly from the Detroit office exact transcripts of all deaths in the city. The independent compilation made by Dr. Martindale and published in the Michigan Monthly Bulletin of Vital Statistics also agrees with the census figures for Detroit.

The results published by the census for Detroit, as for other cities and registration states, are in all cases based upon the copies officially certified to be correct by the responsible registration officials of the places concerned.

While in the West Dr. Wilbur proceeded to Chicago, where he addressed the Association of Life Insurance Presidents, then in meeting there, on the "Work of the Census in Vital Statistics."

County Societies.

JEFFERSON COUNTY.—The Jefferson County Medical Society met in regular session January 3, 1911. House was called to order by the honorable president, Dr. J. S. Jenkins. Reading of the minutes of the previous meeting was omitted. Members present, Drs. Luck, Breathwit, Stewart, Galligher, Williams, Lowe, Brunson. This being the regular time for the election of officers, Dr. J. S. Jenkins was reelected president; Dr. W. T. Lowe, vice president, and Dr. T. W. Woodul, secretary. Dr. Breathwit was elected delegate to the State Medical Society, with Dr. B. H. Galligher alternate.

Resolution by Dr. Jenkins:

Resolved, That every third monthly meeting of this society, beginning with January 3, 1911, be devoted to business and business discussions. All other meetings be devoted to scientific discussions and papers.

Drs. Luck, Brunson and Galligher were asked to read papers at the February meeting. Drs. Stewart, Williams and Jenkins were asked to read papers at the March meeting.

There being no further business, the society adjourned.

T. W. WOODUL, *Secretary*.

FAULKNER COUNTY.—At the December meeting of the Faulkner County Medical Society the following officers were elected: W. R. Greeson, Conway, president; G. D. Dickerson, Conway, vice president; J. S. Westerfield, Conway, secretary-treasurer; Thomas Mabry, Holland, delegate; G. W. Blakely, Conway, alternate.

J. S. WESTERFIELD, *Secretary*.

News Items.

On January 19, the case of the United States against J. William Decker, of the "Gate City Medical College," of Dallas, charged with using the mails to defraud, went to trial in the United States District Court at Dallas. The indictment against Decker is the result of activities of the Dallas County Medical Society. The evidence showed that applications had been made to the "Gate City Medical College" in the effort to obtain diplomas. James N. Wilkerson, attorney for the State Medical Association of Texas, was the main witness and certified to going to Decker's place and making arrangements to purchase a diploma. After securing a receipt for his \$50.00, he grabbed the diplomas and made his escape from the place in an automobile. The diploma and the receipt were offered as evidence. Dr. T. J. Crowe, of Dallas, a member of the Texas State Board of Medical Examiners, testified to having visited the so-called "college." He testified on direct examination that he had found none of the equipment that was deemed necessary for a first-class medical school. He said on cross-examination that he knew nothing of the courses laid down by correspondence schools, and could not, therefore, compare them with that of the local situation.—*Houston Post*.

Decker will be remembered as having first started his medical college (?) at Sulphur Rock, several years ago, later moving to Texarkana, where he opened the "Gate City Medical College," which was later investigated by a committee from the Arkansas Medical Society.

Although Texas, as a state, is not included in the death registration area of the United States, formed for the compilation and study of mortality statistics by the Bureau of the Census, there are two cities—Galveston and San Antonio—which, because of effective local death registration ordinances, have been, since 1906, comprised in the bureau's area.

Owing to the activity of Dr. William M. Brumby, the former state health officer, in promoting the extension of the registration area, many requests from Texas cities which desire admission to the area have been received by the Census Bureau. These will be carefully considered, and Dr. Cressy L. Wil-

bur, chief statistician for vital statistics in the bureau, states that it is probable that a considerable number of them, in which the ordinances are thoroughly enforced, may be admitted for the current year 1911.

The seventh annual conference of the American Medical Association on Medical Education and Medical Legislation, called by the Council on Medical Education and Council on Health and Public Instruction, will meet at the Congress Hotel, Michigan Avenue and Congress Street, Chicago, on March 1, 2 and 3, 1911.

Personals.

Dr. Morgan Smith spent the past ten days in Nashville, Tenn., attending a conference of the Hookworm Commission.

Drs. J. P. Runyan, J. P. Sheppard, L. D. Regan, of this city, and E. N. Allen, of South McAlester, Okla., have returned from a two weeks' trip to Chicago, Ill., and Rochester, Minn.

Dr. A. L. Best, of Newport, was a recent visitor to the city.

Removals.

Dr. Ed Hughes, of Pocahontas, has removed to Walnut Ridge.

Dr. T. N. Rodman, of Cushman, and Dr. James B. Roe, of Calico Rock, have removed to Sulphur Rock.

Dr. L. D. Wadley, of Fourche, has removed to Little Rock.

Marriages.

Dr. William H. Miller, of Little Rock, was married to Miss Mae Niemeyer, January 25, 1911.

Dr. John P. Ferguson, of Sweden, was married to Miss Dorothy McNish, of Little Rock, January 22, 1911.

Dr. Melvin E. McCaskill and Miss Hazel Bragg, both of Little Rock, were married January 11, 1911.

Book Reviews.

Pathogenic Micro-organisms, Including Bacteria and Protozoa.—A practical manual for students, physicians and health officers. By William H. Park, M. D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and director of the Research Laboratory, Department of Health, New York City; and Anna W. Williams, M. D., assistant director of the Research Laboratory. New (fourth) edition, thoroughly revised. Octavo, 670 pages, with 196 illustrations and eight full-page plates. Cloth, \$3.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This work has now reached its fourth edition, being almost an entirely new work, having been rewritten and revised to such an extent. Heretofore the earlier editions dwelt especially on the relations of microorganisms to disease in man, but this edition has a chapter on the bacteria concerned in agriculture and in some of the important fermentations. Such subjects as the relation of bovine tuberculosis to that in man, the value of antimeningococci serum, the use of bacterial vaccines, the etiology of anterior poliomyelitis, trachoma, etc., have been rewritten. The edition is intended to answer the needs of the student and physician.

The Essentials of Histology, Descriptive and Practical.—For the use of students. By Edward A. Schafer, F. R. S., Professor of Physiology in the University of Edinburgh. New (eighth) edition, thoroughly revised. Octavo, 571 pages, with 645 illustrations. Cloth, \$3.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This work speaks for itself, having reached the eighth edition. As a work for the student in directing him in the microscopical examination of tissue and as an elementary text-book of histology it has no superior.

Nephrocoloptosis.—By H. W. Longyear, M. D., Professor of Gynecology and Abdominal Surgery, Detroit Post-Graduate Medical School. 241 pages, with 88 illustrations. Cloth, \$3.00. C. N. Mosby Medical Book and Publishing Company, Publishers, St. Louis, Mo., 1910.

This book presents entirely the views of the writer, who believes that in the nephrocolic ligament he has discovered the principal positive cure of downward displacement of the kidney. The belief that a nephroptosis, because of the action of this ligament, must always be secondary to and the result of a prolapsed colon (except when due to trauma), and should not be considered separately. It is a well written and readable book.

Serum Diagnosis of Syphilis and the Butyric Acid Test for Syphilis.—By Hideye Noguchi, M. D., M. Sc. Associate member of the Rockefeller Institute for Medical Research. J. B. Lippincott Company, Publishers, Philadelphia.

This work gives an adequate account of the principles of serum haemolysis and of the behaviors of the combinations of antigens and antibodies towards haemolysis, so essential for a correct understanding of the subject, discussing at some length the quantitative relationship of the factors playing a part in these phenomena, an aspect of the subject that has not received the consideration that it deserves; and, secondly, to give in detail the technic of Wasserman's method, which is well illustrated by carefully prepared charts and drawings, and also the method recommended by the author.

The subjects in this work are treated in such a manner as to make it suitable for the use of the practicing physician and students at the same time with sufficient comprehensiveness to render it useful to the laboratory workers.

The bibliography appended adds materially to the value of the work.

Anatomy, Descriptive and Applied. By Henry Gray, F. R. S., late lecturer on anatomy at St. George's Hospital, London. New (eighteenth) edition, thoroughly revised, by Edward Anthony Spitzka, M. D., professor anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1,496 pages, with 1,208 large and elaborate engravings. Price, with illustrations in colors, cloth, \$6.00, net; leather, \$7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

There is no work in print that the announcement of a new edition causes so much interest to the medical profession as Gray's Anatomy. It has now been half a century since its original appearance, and it has succeeded in maintaining a leading position in its own subject, and has become the best known work in all medical literature in the English language. It is unquestionably the greatest text-book in medicine, when you consider the number of students who have used it, and it is certain to be carried from the medical college to be the guide throughout the remainder of one's medical life. This new revision, "the eighteenth edition," is possibly one of the most complete and thorough to which Gray's work has ever been subject; there has been much omission of duplications, and much of the old work condensed so that there has been considerable reduction in the number of pages, which adds much to the

advantage of the student. The illustrations have been revised and a great number of new ones added. I know of no one thing which adds so much to the reputation of this book as its engravings and colored plates.

The Practice of Medicine. A Guide to the Nature, Discrimination and Management of Disease. By A. O. J. Kelly, M. D., assistant professor of medicine, University of Pennsylvania; professor of medicine, University of Vermont. Octavo, 949 pages, illustrated. Cloth, \$4.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

Dr. Kelly is amply prepared for the writing of a work covering the modern practice of medicine. One of the greatest essentials is a text-book of this character, and the great problem to the writer is what to exclude, so that the book may be held to its proper size and at the same time be comprehensive and properly balanced. A book should give as good a clinical picture as is possible, and especially so to the more common disorders rather than to the rare diseases, and in this work the author has devoted much space and attention to the practical aspect of medicine and to the symptomatology, diagnosis and treatment. The section on etiology, anatom-

ical lessons and pathological physiology are brief, but are sufficient to give the correct understanding of morbid phenomena, and to give sufficient knowledge as to the course, duration and termination of a disease. and skill in treatment and prophylaxis.

A Manual of Hygiene and Sanitation. By Seneca Egbert, M. D., dean and professor of hygiene in the Medico-Chirurgical College, Philadelphia. New (fifth) edition, thoroughly revised. 12mo, 508 pages, with 97 illustrations. Cloth, \$2.25, net. Lea & Febiger, Philadelphia and New York, 1910.

From the number of editions of Prof. Egbert's book on hygiene and sanitation it shows the great awakening of the country to the enormous importance of sanitation and public health, measures that are factors in the common welfare and betterment of the people. The author in this work has covered all the essentials without exceeding the limits of a convenient size book. The physician is now expected to know and apply principles of prevention, as well as curative medicine; this work is especially adapted to the wants of medical students and practitioners, as well as specialists in hygiene and sanitation.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

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SURGICAL TUBERCULOSIS.*

W. A. Snodgrass, M. D., Little Rock.

Tuberculosis is an infectious, inoculable disease, caused by the tubercular bacilli, or Koch's bacillus. It may manifest itself in the human subject either locally or generally. It has special foci of predilection for its development.

First, we have it developing most frequently in the apex of the lung, next the pleura; then the bones and lymphatic glands.

Pulmonary tuberculosis cannot be classed as a surgical disease at the present time, but tuberculosis of the pleura, bones and adenotuberculosis are surgical diseases.

Joint tuberculosis should be classed with bone tuberculosis, as the greatest number of cases of joint tuberculosis are primarily bone tuberculosis. The primary inoculation or focus of development is in the bone.

Pathology.—Tubercular bacilli must enter the body in one of three ways—by the air passages, by the alimentary tract, or direct inoculation into the surface through an abrasion.

It has been demonstrated by Baier and others that tubercular bacilli do not grow well when bathed with much blood, which explains, in a measure, the seat of predilection for the development of tubercular foci: In the lung—the apex; in bones—the cancellated bone tissue at the epiphyseal lines. In glands—the anterior cervical chains.

Tubercular bacilli alone are incapable of forming pus. They destroy tissue by irritating the cells and the development of granu-

lating foci, which spreads slowly to the surrounding structures, and finally causing caseous degeneration of lung tissue, absorption of bone, caseous degeneration and breaking down of glandular structures and the formation of the so-called cold abscess.

Tubercular bacilli act synergistically with pyogenic microbes, and if a concomitant or mixed infection takes place, true pus forms and the destructive process is much more rapid.

Symptoms.—The symptoms of pleural tuberculosis are too well known to you all for me to take up your time by going into diagnostic details of this form of tuberculosis.

Treatment.—In the early stages, when the pain is acute, before effusion has formed in the pleural sac, strapping the chest wall as you would for a broken rib gives the greatest comfort to the patient. If effusion has formed, aspiration, aseptically, using a large needle, should be done, and repeated as often as the serum accumulates. This greatly relieves the dyspnea. The general medical treatment should not be overlooked at this state of the disease. Resection of a rib or ribs should be done when the accumulation in the pleura becomes purulent or coagulated with blood, or so thick that it cannot be withdrawn with an aspirator.

Resection of ribs should never be done, in my opinion, in the acute stages of pleurisy, when the patient has a high temperature or shows signs of profound toxemia. Palliative measures should be used until the acute symptoms subside.

Technic.—A general anesthetic, preferably chloroform, should be administered. The anesthetist should be competent, and use as little of the anesthetic as possible to produce the desired effect. An abundance of air should be admitted with the anesthetic. The

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

patient should be kept warm by being well protected by blankets and hot water bottles. The atmosphere of the room should be fresh and cool—60 to 70 degrees Fahrenheit.

Thorough asepsis should be produced by scrubbing the parts with soap and water, the use of alcohol and 1-1,000 solution of bichloride.

Towels wrung from bichloride solution should be placed around the field of operation, the patient being protected in such a way as not to get unnecessarily wet and chilled.

The seventh or eighth rib should be cut in the mid-auxiliary line and one or two inches removed. The fluid in the cavity is allowed to drain out, and a half-inch double drainage tube made of soft rubber, perforated freely, should be inserted—one end directed anteriorly, one posteriorly, resting on the diaphragm. The ends should be fastened on the outside by a large safety pin and made secure, so that the tube cannot get lost in the cavity. A large aseptic dressing should be applied and changed every few hours. The pleura should not be irrigated until the patient has completely recovered from the anesthetic and shock. The second or third day, usually, is early enough to begin the irrigations. Washing the cavity with permanganate of potash solution, 1-1,000, or 1 per cent sterile boric acid solution is beneficial.

In case the lung does not expand and fill out the pleural cavity, there will remain a fistulous opening which will be troublesome and slow to heal. Beck's paste of bismuth and vaseline should be tried, as a last resort. An Eastlander's operation to make the chest wall fit the contracted lung gives good results.

Tubercular Bone or Joint Infection.—Tubercular bone and joint infections occur more frequently in young subjects, who may have a tubercular diathesis or appear in perfect health.

History.—Has the patient been in bad hygienic surroundings? Has he lived in houses with tubercular persons?

Symptoms.—Night pains, either direct or reflected; muscular rigidity; muscular spasms in the groups of muscles attached to the bone involved. Muscular atrophy is an early sign. Muscular spasm and night pain are almost pathognomonic signs of bone tuberculosis. Ordinary analgesic drugs will not allay the muscular spasm in bone tubercu-

losis which causes the night cries of the victims.

During the day, when the motor nervous system is under the control of the will, the pain is much less than just before or immediately after going to sleep. The irritation to the neurons in the tubercular foci cause spasmodic contraction of the muscle, inhibiting the growth of the limb and producing atrophy of the fully developed cells.

An evening temperature of one or two degrees should always excite suspicion of tuberculosis.

Prognosis.—In young subjects, if treated early, the prognosis is good. In older subjects (subjects who have passed adolescence) the prognosis is not so favorable.

Treatment.—If seen early, before great tissue change has taken place, continuous rest by immobilizing the affected part by properly applied apparatus; a plaster of paris cast, or Baier's hypodermic treatment by his vacuum cups, or, if the parts be an extremity, the elastic bandage, which is applied in the following manner for three hours during each twenty-four hours: Apply a woven elastic bandage above the diseased area, making several turns around the limb. Make the bandage tight enough to obstruct the venous return flow of blood. Great care should be exercised not to cut off the arterial blood current, which is easily determined by feeling the pulse-beat below the bandage. The bandage cannot usually be borne for three hours for the first few applications, as it causes such great pain, and it is necessary to gradually work up to that length of time. This treatment should be repeated daily for two or three weeks, and then a few days' rest. If the old symptoms show signs of returning, it should be repeated.

If a tubercular abscess has formed, the best results are obtained by the following surgical procedure: Thoroughly aseptize the surrounding part by scrubbing with soap and water and alcohol and then swabbing the surface with Harrington's solution, which insures perfect asepsis of the skin. Cut down on the abscess; remove all detached tissue or caseous deposits by gently swabbing the parts with aseptic gauze. If there are sequestra of bone which can be removed without great mechanical force, they should be removed. The diseased area should be filled with adrenalin solution of 1-2,000, and swab

out the excess solution. Close the incision, approximating the parts well, so as to leave no space for serum to accumulate, and close without drainage.

If the tubercular infection is not destroyed by one such treatment, it should be repeated as often as there is reaccumulation. It is rarely necessary to open one of these abscesses more than twice. The part heals kindly, and there is no tubercular sinus, which is sure to become infected by other germs than tubercular bacilli.

Cureting, scraping, chiseling and other rough mechanical measures should never be used when dealing with tubercular infections. Other antiseptics, such as zinc chloride solution (2 per cent), Phenol solution (1 per cent), may be used, but they do not give as good results as adrenalin solution.

Tubercular Adenitis.—Tubercular glands should be removed before they become soft or break down, by neatly dissecting them out. In case they are not seen early enough to be removed before breaking down, then should be opened aseptically and squeezed or swabbed out and the cavity filled with adrenalin solution and closed by sutures, and an aseptic protective dressing applied.

The most important point in dealing with tubercular infection is to prevent a concomitant or mixed infection and to protect the surrounding tissues from tubercular contamination. Hygienic surroundings and general tonic and supportive treatment should always be given a prominent place in surgical tuberculosis.

DISCUSSION.

Dr. Dunaway (Little Rock)—I desire to thank Dr. Snodgrass for this interesting paper, and I wish to notice one point, referring to joint tuberculosis. As he has brought up so much in his paper for notice, I will consider one point, and that is in reference to the diagnosis in these earlier infections. A case bearing directly upon that point will accomplish what I have to say. A little boy, twelve years of age, while playing, fell and struck the anterior surface of the tibia, about one or two inches below the knee. A slight abrasion occurred, which healed quickly, and nothing was thought of it. But in a few weeks he began to complain of pain in that region, and the little fellow was treated for rheumatism and for growing pains, and what-not. When I saw him at first there was scarcely any swelling to be noticed. An

accurate measurement of the limb at that place revealed a small enlargement, but on casual observation you would not have thought there was any difference in the size of the limbs. I suggested to his father that he had a tubercular process, and that it ought to be opened and drained. He refused my advice, and applied to another physician, and this physician treated him with iodide of potassium and some other things, and the little boy grew worse with his pains, especially at night. He cried himself to sleep every night. The case fell into my hands again, and I urged operation. In opening the bone there was quite an area of infection, reaching up even above the epiphyseal line. Drainage and tonics restored the little fellow to health, and now he is a robust young man, growing rapidly and apparently in good health. I merely relate this case to emphasize a point in diagnosis, that where a child complains of pain in the legs, and especially when worse at night, whether you can find a history of a previous trauma or not, gives rise to suspicion and should be carefully looked into.

Dr. Runyan (Little Rock)—I want to call attention to one or two points not brought out in the paper in regard to the method of draining in case of empyema, no matter whether due to tuberculosis, or what-not. Those of you who were raised in the country, where molasses is bought by the barrel and not by the bottle, have had enough experience to know how to draw molasses, and know that in addition to having a great, big faucet in the bung-hole, in order to get the molasses out it is a whole lot nicer to have a nail hole above to let the air in, and then the molasses comes flowing out without any trouble. When you have to resect a rib in order to drain an empyema and introduce the tube, a great deal of pus, of course, will flow out, but there continues to be a drain for a long, long time, because of the fact that you do not drain out the entire cavity. If, in addition to the resection of the rib, which is done in the mid-auxiliary line, you will introduce through that opening a forceps and run it up between the ribs at some point further up in front, and cut on your forceps between the ribs, and with that same forceps carry a drainage tube through, you have drainage and counter-drainage; you have, in other words, the same kind of drainage as you have when you introduce a nail into the

barrel above your faucet, and your case will get well in a much shorter time.

Another thing I do in these cases, in order to be sure that I haven't removed my drainage too soon and have to reopen at some future time, when I get ready to remove the tube through the same tube I introduce silkworm gut sutures, two dozen strands, and they are left in there until the other part of the cavity has just about healed and the drainage is down to a few drops a day, and these silkworm gut sutures are removed and the case heals up in a very short time, and you don't have to reopen, and, better than that, you don't have to do an Eastlander operation, which I think is a most formidable operation, and one I never had the nerve to undertake.

Dr. Meek (Camden)—I want to take issue with my friend Dr. Runyan. I should think, as a rule, unless there is very decided contraction of the lung above, we don't want air into the cavity. If you breathe normally, the expiration and expansion of that lung will take the place of the nail hole and expand the lung. Unless there is very decided sepsis there, you don't want too much air in there. If you do, you get collapse of the lung.

Dr. Smiley (Texarkana)—I was very much interested in the paper of Dr. Snodgrass. While the doctor doesn't mention the percentage of tubercular troubles following his pleurisy with effusions, I have got the impression somewhere, whether I was taught it in school or read it, that the per cent is pretty high. It is my opinion that it should not be. In pleurisy with effusions, if the condition is recognized early and aspiration is done properly, the patient should get well without concurrent tubercular trouble. However, a rare and interesting case came under my care. A patient gave a history of having been sick four months. I had little difficulty in diagnosing pleurisy with effusion, and aspirated. Naturally, of course, the lung by that time had entirely collapsed. I took off about, I think, two pints, and then in a day or two two and a half or three pints,—it is not well to take off too much at a time—and kept on aspirating. The patient refused operation at that time, and altogether we removed by aspiration twenty quarts of serum. The patient finally consented to a through-and-through drainage; not a radical operation, however, with collapse of the cavity. With through-and-through drainage he didn't

get well. After persistently refusing to submit to an operation for radical resection of the ribs, he left the hospital and went to his old home in Tennessee, and his brother wrote me that he had put him in a hospital at Nashville, and in the course of time he died—I presume from tuberculosis. But that was simply a case, to my notion, where the patient himself was at fault in not consulting a doctor earlier. He was a very persistent man at his work; simply would not give up, although he ran the usual course of pleurisy with effusion at the beginning with some fever, as he supposed. But pleurisy with effusion, to my notion, should not necessarily be followed by tuberculosis. Speaking personally, I have had three or four quarts removed from one of my pleural cavities, and no evidence yet of tuberculosis.

Dr. Williams (Pine Bluff)—The idea occurred to me while listening to the paper, as well as the discussion, that it would not be a bad idea in these old cases of chronic empyema with fistula, to do a resection of the rib and go in with your hand and curet the pleural cavity. There is a plastic exudate thrown out there which prevents full expansion of the lung, and I believe to make an opening sufficient to introduce your hand and curet the cavity with your nails, under thorough aseptic precautions; removing the exudate from the parietal and pleural viscera and allowing the lung to expand, that it would tend more to the relief of these cases than any other measure.

Along in the '80's I was practicing medicine. There was an old farmer friend who plowed and hoed every day. He had a fistula, I think, in his left pleural cavity. He plowed every day with the fistula plugged up with a piece of oakum. Three or four times a day he pulled it out and bent over and let it evacuate itself. At that time we knew practically nothing of the surgical treatment of these cases, but later on I have decided that in these instances, especially, that have gone on for years, the procedure of resection and a thorough curetage of the pleural cavity with the nails, removing the exudate and allowing more expansion of the lungs, would have been beneficial in this immediate case, if not curative.

It stands to reason that you have exudates in one sinus or cavity as well as another. You have an exudate when you have peri-

uterine cellulitis; why not have an exudate in a case of pleuritis?

Dr. Snodgrass—The expansion of the lung will squeeze it out. I never saw an exudate in the pleura so hard that the expansion of the lung would not squeeze it out through the opening, and I don't believe they form there without there is destruction of the lung. There might be calcareous degeneration or tubercular abscess.

Dr. Williams—How do you account for these lasting fistulous openings in the pleural cavity following a case of pleuritis with an empyema?

Dr. Snodgrass—Inability of the lung to fill the cavity. You have fistulous openings anywhere in the body where there is dead space that is not completely closed up or filled with air. There is no place in our economy to permit air to remain, unless it has a special membrane for taking care of this air. As in the ear, we have air behind the drum, going through the Eustachian tube. Inability of the lung to fill up all the spaces will cause that continuous drainage.

This subject is so important that I want to apologize to the society for the briefness of my paper. It is impossible to discuss the subject of bone tuberculosis within one day or two days. I only took up a very few points. With my limited knowledge of the subject, I think that I could write for several days on this topic alone. I am very glad that some of you took occasion to jump on me, and now it is my jump. My friend Runyan over there has always been talking about that molasses barrel. There is not anything in it. I explained very closely and carefully in this paper that you put in two tubes; you run one in anteriorly and one posteriorly, and draw them out of the same hole. You get air in the chest. You get the same effect exactly as you would if you only put in one tube. If you put in one tube it becomes plugged and gets away around up where there is no air. The expansion of the lung will force out all the fluid there is in the pleural cavity if the lung expands.

Dr. Wood (Fayetteville)—How do you expect the lung to expand? Is there any possible way that the lung will expand unless you create a vacuum in the pleural cavity? Because some of us have brought that question up. This is a question in physics, or physiology, I would like to know more about.

Would it be possible for anyone to breathe with an opening in both pleural cavities? During an effort at coughing, air might be forced into the lungs on the injured side, and expel fluid from the pleural cavity.

Dr. Snodgrass—The only explanation I have for that is simply this: The atmospheric pressure on the inside of the lung is fully as great as from the outside. When we resect a rib, the atmosphere rushes in. There is as great pressure in the pleura as there is in the bronchi, and if deep inspiration comes on, the lung will expand.

In regard to scraping out the exudate, it is not the exudate in the pleura that prevents the lung from expanding. Any of you who have resected a rib have seen how quickly that pleura expands when you remove the fluid; it gets in the way; when you first make an opening there is a gush of fluid, and then the lung closes the opening, and as the lung expands and contracts, the fluid continues to come out with the same degree of force. There is no exudate in the pleural cavity that prevents expansion. On that theory, we have instructed the patients to expand the lungs; we have them blow into a bottle to expedite filling them out. Then, as they begin to use the lung more and more, it expands. We all know that the lung is crowded up into the apex of the chest, when you have a pleural effusion. When you withdraw the fluid the lung will come down; sometimes it may remain up there. You have a great, big cavity. After the patient begins to exercise that lung it expands and fills the chest cavity again, provided there is not too much exudate inside of the lung—not in the pleura, but in the bronchi and capillaries of the lungs—that it prevents complete expansion, or perhaps there has been a tubercular abscess and destruction of lung tissue.

I have done a few Eastlander operations, and I am not afraid to tackle it. Again, I have lost a few patients, and I have saved one or two lives by it. An Eastlander operation is not necessary because you don't drain the pleura perfectly with two openings and strands of silkworm gut. It is done to close the space between the layers of the pleura when the lung is so consolidated and contracted that all hopes of its expansion have been lost; then the chest wall can be made to conform to the lung.

TREATMENT OF PELVIC CELLULITIS IN THE FEMALE.*

R. C. Dorr, M. D., Batesville.

In the beginning I want to say this paper was not written for the benefit of the specialist or for one who wants to get into the various treatments of this subject. I would refer *him* to Kelly-Noble's work on Gynecology and other standard authorities. But I wish to boil down some points that will be of benefit to the general practitioner like myself. Most authorities divide this disease according to its clinical course—acute and chronic. Of the treatment of the latter I shall have but little to say in this paper. I take it that you are all familiar with the diagnosis of this disease and its clinical course. As you know, this disease ends in one of three ways: First, by resolution with absorption of the exudates; second, by pus formation, forming abscesses; third, exudates remaining stationary, requiring some form of treatment to reduce them. The first condition is treated by rest, which is of more importance than anything else in the treatment; salines, hot douches, hot or cold applications over the abdomen—which ever feels best to the patient. And I know of no reason, in urgent cases, why you should not make incisions in the vaults of the vagina, under aseptic precautions, and dress with antiseptic dressings. This treatment has been tried and found beneficial.

Second, the abscess should be opened per the vaginal route, and the site of election is the posterior culdesac in the majority of cases. You will find in some of the cases it will be impossible to get fluctuation, and that a rectal examination will give you a clearer idea than the vaginal. The method I use in opening the abscess is the following: Put the patient on her back, with the thighs flexed on the pelvis and the legs flexed on the thighs. With a retractor or "duck-bill" speculum I pull down the perineum. I have a piece of white paper convenient, take an exploratory syringe and begin to hunt for the abscess cavity. Each time, if I don't get a quantity of pus, I empty this syringe on this piece of paper. Even if I get only *one* drop, I cut boldly into the cavity. Authorities would tell you, after incising the mucous membrane, to work your way in with a pair of forceps, or with your finger, which, per-

haps, is the safest way. I make a semi-lunar incision in the culdesac; I drain, usually with gauze. I operate these cases under local anesthesia, and haven't had a death in twelve years.

I suppose you are all familiar with the old way of treating these exudates with electricity, etc., so I won't take up your time by giving it here. In the A. M. A. Journal of January 29, 1910, page 421, you will find the following: "Saline Solution in Treatment of Exudates from Pelvic Cellulitis." Kirstein has obtained such uniformly good results with this technic that he wishes to acquaint others with it, in order that it may be tested on a larger scale than is possible in his service at Gottingen. He relates his experience with it in four severe cases of parametritic exudates, causing chronic weakness and comparative disability. In the first case the uterus seemed to be embedded in a hard, immovable, only slightly sensitive mass. No limit to the hard masses could be palpated above, and they spread around the rectum, constricting it at one point. The patient was kept in bed, given a tepid bath every two or three days, with an iron tonic, and every day the vagina was swabbed out with a 1 per cent phenol solution through a speculum, and then from three to five syringefuls of physiologic salt solution were injected through the vagina into the region back of the cervix, the cannula being pushed in until it encountered a hard obstacle. Fourteen of these injections were made in all, the capacity of the syringe being two and five-tenths C. C. The tip of the cannula was pushed into the hard mass each time, and the latter seemed to soften almost at once. When the patient was discharged, on the twenty-second day, all subjective disturbances had ceased, the hard masses had materially softened, and subsided with no further pressure on the rectum; the uterus was movable, and the woman was able to return to hard work in the field and garden without any pain, although in sitting she still felt occasionally a little pain. She refused further injections, as she felt perfectly well. He has made sixty of these injections to date, and the patients were discharged from the hospital in from fifteen to twenty-nine days. The difference in condition of osmosis may possibly have something to do with the prompt softening of the exudates, or the fluid injected may induce congestion in the parts, thus realizing therapeutic hyperemia.

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

If the above proves to be true, as I have no doubt that it will (as it has been successfully used for this purpose in other parts of the body), it will do away with the old method of treating these exudates.

DISCUSSION.

Dr. Lutterloh (Jonesboro)—I don't care to discuss this paper, but I feel that it is of very great interest to every doctor. I never had but two cases, and want to ask him how he keeps the wound open when he makes an incision in the culdesac. These mucous wounds heal up right away with me, but it is very hard to keep the external wound open until the abscess cavity is healed from the bottom on out. I noticed one time, I believe, of Ochsner, of Chicago, boring a hole. Of course, I have never done that, but I have always made a very liberal incision, and they heal up right away.

Dr. Snodgrass (Little Rock)—I want to thank the doctor for his paper. I think his idea for using the injection is a good one. I notice these things frequently absorb and disappear without any treatment. But the cases where you have pus I much prefer should be cleaned out. I don't know exactly what he said about the method of injecting when pus is present. I prefer drainage.

Dr. Dorr—Regarding Dr. Lutterloh's question of keeping the tubes open, I prefer to make a semi-lunar incision around the culdesac. I make it pretty broad. I pack it with gauze, and just keep it open with gauze. I don't make it through the rectum, but the other way; circle right around the uterus. I make the incision that way, and pack with gauze and keep it packed until it drains out.

Dr. Lutterloh—I want them to drain. I put them in the Fowler position, or put them on their feet to walk around. I had a negro that gave me a lot of trouble and caused me to do a great deal of praying; and in our end of the State we don't pray very much for negroes.

Dr. Snodgrass—Perhaps the doctor was dealing with a pus tube instead of a pelvic exudate, where he had so much trouble in keeping the drainage going until the cavity healed.

Dr. Dorr—Maybe so.

Dr. Snodgrass—If you go into a pus tube through one of the culdesac drains, you find you have a great deal of difficulty to prevent the tube from closing. If it is in the pelvis

you find very little trouble to keep the culdesac open.

Dr. Dorr—I have had no trouble with that. In my early days the trouble I had with it was that I didn't make the incision deep enough. I go clear around; I make it pretty broad. The time that pus runs out it would be a great deal smaller. Then I just pack it with gauze and let that gauze stay three or four days, and then take it out and pack it again. In that way I keep it open. I have no trouble about it.

Regarding the Fowler position, I never put them in that position at all. I pay no attention to the position in any case, because that has walled off; it is only in a leaking case. I think my patient does better lying upon the side and wallowing around, as they want to; they don't get worn out, and they rest better. It is only in cases that don't wall off that I use position.

Regarding Dr. Snodgrass' point, there are worlds of them get well, but the salt solution I speak of is only used where they don't become absorbent. They use that salt solution in different parts of the body for removing exudates, and it does do it; there is no doubt about it.

THE TREATMENT OF FRACTURES OF THE LONG BONES.*

H. H. Smiley, M. D., Texarkana.

Speaking, necessarily, from the viewpoint of the railway surgeon, I beg to submit the statement that in all the realms of surgery no more difficult problem is offered for solution than the treatment of fractures. Appendectomies may be followed by adhesions that cause endless distress and pain, but the abdominal walls hide the surgeon's possible mistakes from the outside world. Operations on the gall bladder may result in death and the grave is the silent custodian of possible error; but allow the broken end of a radius to unite with an ulna, or permit a fractured femur to unite with too much shortening, and the whole world, in so far as that patient and that surgeon are concerned, is cognizant of an awful catastrophe. Then, too, with the well-known tendency to seek, through legal process, financial compensation for personal injuries received while in the service of a cor-

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

poration, an additional anxiety may attend the labors of the railway surgeon. And if, in addition to twinges of conscience over preventable deformities and loss of function, the surgeon is ruthlessly interrogated by an intelligent attorney before a jury in open court, his predicament is as pitiable as his defense is weak. And the lamentable feature of the case is that the patient himself may be doomed to pass the remainder of his life with a limb as deformed as his livelihood is endangered.

Permit me, if you please, to restrict my paper to a general discussion of the most important points in handling extra-capsular fractures of the long bones of the upper and lower limbs, excluding the extremities—twelve bones. And, beginning with the assumption that the surgeon's first duty in such fractures is to obtain correct apposition of the ends of broken bones, and his second duty is to maintain such apposition until union is permanent, I remark, first:

The X-ray apparatus is an essential adjunct to the proper handling of fractures. By its use a correct diagnosis is made—the most important point in all surgical or medical procedure. The degree of displacement is also noted, and frequently it is also possible to ascertain just what manipulations will secure perfect alignment, when splints may be applied. But by far the greatest aid by means of the Roentgen ray is obtained after the splints are in position because then a photograph may be taken, except when heavy plaster casts are used, and an inaccuracy of adjustment corrected. Even in plaster work I would unhesitatingly advise removing the cast within ten days or two weeks and taking a photograph in two diameters. I say within ten days or two weeks because by that time enough of solidity is obtained to permit photographs to be taken if the limb is carefully handled, and yet the union is not too firm to prevent readjustment if such is found necessary. Furthermore, it is perhaps advisable to renew plaster casts or other splints after two weeks, both on account of possible skin lesions, and also to secure greater snugness of fit after shrinkage of muscles and final reduction of any swelling remaining at the time the splints were applied. Do not infer from these statements that I believe absolutely perfect apposition of the broken ends of a bone to be either necessary or always possible. In fact, it is my opinion that if skia-

graphs should be taken of old fractures, in which the results were good as noted by perfect functioning ability and lack of deformity, fractures which occurred before the X-ray came into use, the vast majority of these pictures would show both overriding and malapposition to some extent. A case in point: A bridge carpenter had his leg broken at the junction of the lower and middle thirds of both tibia and fibula. The result, as far as appearance and usefulness were concerned, was practically perfect. He sued the railway company for damages, and the surgeon who testified that he was permanently disabled exhibited a skiagraph showing, as the plaintiff's attorney sought to convince the jury, a sharp end of the diagonally broken fibula lying alongside its complementary end, but not united to it, thus giving rise, so he suggested, to continual pain, when, as a matter of fact, union was firm, and the only fault with the picture was that it did not show the callous which had been provided to prevent just that difficulty. Such attempts to misconstrue skiagraphs should in no wise prevent us from using the X-ray as a most valuable aid.

I remark, second: The use of a general anesthetic is, in the majority of cases, essential to success. In green-stick fractures or transverse fractures in which no displacement occurs, as shown by the X-ray, and in cases where perfect alignment is easily obtained, or is to be secured by continued extension as in some cases of fractured femur, the general anesthetic may be dispensed with, but I am firmly convinced that much more perfect success would attend our efforts if ether or chloroform were more generally used in the adjustment of fractures. And just here let me add a word of caution. If by the use of the anesthetic and the fluoroscope perfect alignment can be obtained, it is a matter of the utmost importance that the cast or splints be applied while the limb is in just that exact position. Hence it follows that the holding of the limb is of greater consequence than the application of the cast, and in my opinion, instead of having an interne or assistant hold the limb, the surgeon himself should perform this most important, although most arduous, task, and let the assistant apply the cast.

I remark, third: As all that has thus far been said applies only to simple fractures, in handling compound or badly comminuted fractures the real work of the surgeon begins,

and here he must use not only his anesthetic and his fluoroscope, but also his most skillful surgery, because it is his plain duty to open up all wounds for thorough cleansing, and he must secure the apposition of the broken fragments, if necessary, by such mechanical devices as wire, kangaroo tendon, non-absorbable catgut, plates, nails or pegs. Even in simple fractures of the humerus or the femur, in which apposition cannot be maintained, I would strongly urge making an incision and properly securing apposition as above indicated. Why not? With modern aseptic methods you unhesitatingly open an abdomen. Do you fear infection in an arm or leg? True, you may obtain good results in numerous cases without using seemingly radical methods, but one bad result is certainly a strong enough demand for the utmost caution and the most careful work in every case. Of course, in compound fractures or simple fractures compounded by the surgeon, occasional dressings of the external wound are necessary. To accomplish this through a window in the plaster cast without soiling the contiguous portions of the limb or cast, pack the edges of the window with lambs' wool, saturated with commercial rubber dissolved in chloroform. An impermeable dam is thus easily made.

As to the local surgeon who is called upon to give temporary relief in cases of fracture, I consider that he has done his whole duty when he has immobilized the fracture and applied such splints as will maintain immobilization while the patient is being transported to the company hospital. The exception to this statement is in cases of compound fractures, which should be opened up, cleaned, and the apposition of the broken fragments permanently secured at the earliest possible moment.

In these remarks I have advocated no peculiar or special splint. I have not suggested the occasional necessity to await the subsidence of inflammation before applying permanent splints. Nor have I noted the necessity for more or less early manipulation in order to avoid ankylosis or permanent stiffness of adjacent joints. Indeed, I have consulted no authority in the preparation of this imperfect paper, but have simply given to you the three cardinal points that appeal to me as contributing most to success in this

most difficult work. And to recapitulate these three points are:

1. The indispensable need of the X-ray, both the fluoroscope and the photograph.

2. The constant use of the general anesthetic.

3. The need of mechanical devices in all cases in which correct apposition cannot otherwise be maintained.

And I conclude my remarks by saying that eternal vigilance and unceasing labor are the price of successful work in this as in no other field of surgery.

DISCUSSION.

Dr. Wood (Fayetteville)—It will soon be forty years since I have had my first fracture of the long bone, a fracture of the femur, in a man of sixty years of age, in which I used the Hodgkin splint. The result was good; he had no shortening, and no limp in his walk. I have treated a number of cases of fracture of the femur with the Hodgkin splint; I have treated several with plaster casts, and I have tried the ambulatory splint of Jones, I believe, of Chicago, for which I paid fifty dollars and never was able to use it to good advantage. At this time I have a negro who has a comminuted fracture of the femur. He is now in about the fifth week with the Hodgkin splint; the limb seems to be in splendid condition; I am very much in favor of the Hodgkin splint for the fracture of the long bones, especially of the femur, whether it be in the shaft or the neck. I was very much gratified just a few years ago to see an article in the Journal in which a New York physician in the hospital had treated quite a number of fractures of the neck of the femur with the Hodgkin splint with splendid success. As John T. Hodgkin told us, when we used that splint he said that motion will occur where there is the least resistance, and therefore he applied it in fractures of the neck of the femur. And I like it; I think I shall continue to use the Hodgkin splint in fractures of the femur.

Dr. Lenow (Little Rock)—I was very much interested in this paper, and regret the author did not bring out the splint he used in intracapsular fractures. I have in years past had an experience in treating some five or six cases of them. The first case I ever treated I informed the patient and relatives that he would possibly have be-

tween two and one-half and three inches shortening, but, fortunately, I adopted the plan of placing the patient on a hard and even mattress with extensive sand bags on each side of the limb. Then extension of from fifteen to twenty pounds was made by means of adhesive plaster and a pulley from the foot of the bed. After about one week or such a matter, when it is apparent that the muscular rigidity is overcome, the weight making the extension can be lessened.

I had occasion a few years ago to see in consultation with Dr. Runyan a railroad employee with an intracapsular fracture, and it was with some difficulty that I succeeded in inducing Dr. Runyan to do away with the splint and put the leg up as detailed above. About eight weeks afterward, the doctor sent this patient to see me; there was between one-quarter and one-half of an inch shortening only.

Dr. Wood—What kind of counter-extension do you make to keep the pulley from being pulled off?

Dr. Lenow—Elevate the foot of the bed several inches, and if this is not sufficient, make counter-extension from the arm pits with some device which can be attached to the head of the bed.

Dr. Runyan, in Answer to Dr. Wood's Question—The only counter-extension necessary is the weight of the body secured by elevating the foot of the bed. There is another thing that should be emphasized, namely, sand bags should be applied; the one on the outside should extend from the foot up to above the hip. There is another thing the doctor did not emphasize, and that is the sand bag, to have them big enough. Most of the sand bags you come across in the hospital or in the home are a little bit of slender thing that does not amount to much; hasn't very much weight to it. The weight of the sand bag is a very important thing. Have the sand bag big enough and long enough; let them be long enough to come up under his arm and clear out to the foot and beyond, and the one on the inside coming up to the crotch.

Another thing I want to emphasize in this treatment Dr. Lenow speaks of is to have enough weight to begin with. Twenty pounds is as little as I ever begin with, in adults; that is, in the ordinary adult size. I ordinarily have twenty-three or twenty-

four pounds. De Costa lays down the rule that the amount of weight should be one pound for each year up to twenty years. If the patient is a good, strong, healthy, robust boy of eighteen, I don't stop with that rule of one pound to the year, but put on several pounds more than eighteen—twenty or twenty-five pounds, at least. Then you can take off after a few days, after the muscles become partially paralyzed and don't have that resistance, taking off the weight down to fifteen or eighteen pounds, but hardly ever taking the weight down to less than ten pounds until just a short time before I am ready to discharge him.

Dr. ————How large do you make those sand bags?

Dr. Runyan—I never weighed one, but I have the sand bag as big around as the leg after the sand is in there.

Dr. Hawkins—I have treated a number of cases of fracture of the femur. I just want to refer to one case in particular. It was a very stout, muscular young negro, who, while plowing in the field, a falling tree struck him and he had a double fracture of the femur, one in the upper third and one a little below the middle third. I treated him with sand bags. There was less than a quarter of an inch shortening in that limb.

You want a sand bag on both sides and full length and size of your limb; you want the sand bag to be in proportion to the limb. It will adjust itself in every particular. In all cases I have treated there has never been any deformity whatever, and this negro who had the femur broken in two places at the same time, there is practically no shortening whatever.

As to Dr. Wood's query about counter-extension, you get extension by weight and pulley, and counter-extension by pulley strap lengthened out and fastened to the head of the bed.

Another point I would mention, and that is the weight for the extension should be in direct proportion or ratio to the muscular strength of the patient. If you have a weak patient you don't want so much weight, but if you have a stout, muscular fellow, you require more weight.

Dr. Kirby (Harrison)—I am very well pleased with the case about the Buck's extension that Dr. Lenow and Dr. Runyan speak of. There is one point relative to the

sand bag. It does not want to be made full, so full it will not accommodate itself to the limb. Don't get it too full, or it will not accommodate itself or lay up against the limb.

Another thought: Put a spreader in between the ends of the adhesive strip used as extension so that it will not press against the ankle; that is, have a piece of wood slightly wider than the ankle, the cord attached to the weight fastened in the center of this piece of board, the adhesive strips reaching far enough below the foot to have good space for inspection, etc. Remember, also, to keep all pressure off the heel.

Dr. Chesnutt (Hot Springs)—I was very much interested in Dr. Smiley's paper, and I was also interested in the remarks made in the treatment of fracture of the femur by extension. I might say that in the Johns Hopkins Hospital that is almost the sole method of treatment used in fractures of the femur. They always have on hand an extension apparatus and adhesive strips made in the form of a "V," with one lateral strip that would come up and a corresponding cross strip and a lateral on the other side. The bed is always elevated from four to six inches. And they also use in addition sometimes a slight incline frame, and if the fracture is in a position where coaptation splints may be applied, that's the thing which is always done. If there is a great deal of swelling when the patient is first seen, the limb is put up in a pillow splint for a day or two, or two or three days, until it subsides. Then a coaptation splint is placed upon limb with the extension.

Regarding the amount of extension, I don't agree with the remarks of some that the weight that may be placed depends upon the muscular strength of the patient. It depends entirely upon the amount of pull that the skin will stand, and it has been found that the maximum which the skin will stand, where you use adhesive plaster, is twenty-two pounds, it is always advisable to stay considerably under that. If you don't, you will find out in a very few days that the skin will be so much irritated that you will have no normal skin upon which to apply the extension strips. This method of extension treatment is also used in children, using a vertical extension with children up to seven or eight years old. Where we have a

vertical extension, the leg is at right angles to the body. This method is the easiest way to keep the child clean. It is very easily attended to; the results are excellent, and it is very easy to carry out in private practice. When union is complete the limb is put up in plaster.

Dr. Snodgrass—I wish to thank Dr. Smiley for his paper. I don't believe the form of splint or the method of treatment has very much to do with the fracture as to the ultimate results; but it is the control of your patient while the process of repair is going on.

Dr. Smiley—The entire discussion, except of the last gentleman—Snodgrass—has been on fracture of the femur. I believe possibly that this is one of the most difficult fractures to handle, but you will find, if you have occasion to handle a fracture of the tibia, without a fracture of the fibula, a most difficult thing to handle. You sometimes run across it, the fibula acting as a fulcrum, getting your tibia out of place. It's a good deal easier to handle a broken leg in which both the tibia and fibula are broken than it is to handle one with just the tibia itself broken. Of course, a fractured fibula is not difficult to handle.

As to the splints for fracture of the femur, like Dr. Wood, I prefer the Hodgkin splint, for the reason that with it you can use both your extension and your angle. You don't stretch the leg straight out with your extension, although you have extension upon it. But you have semiflexion, and the patient is much more comfortable. As a matter of fact, we are using, however, Buck's extension more than the Hodgkin splint; Buck's extension with Hamilton's long splint. The "L" shape to come across the foot, and the long board to come up under the axilla, and also the sand bags. With the long board and with the "L" at the bottom, through which a hole is made to allow the rope to pass with the weight, keeping the leg from rotating from side to side.

As to putting on those extensions, I was interested in Dr. Chesnutt's remarks very much. It is an important point to put them on well. As for the adhesive plaster, as he suggests, making four strips at the upper extremity, put them on even with the site of the fracture, because if you pull above that, of course, you are not going to do any good. It is just as important not to pull below the knee; not as important, possibly,

but it is very important for the reason that you extend the knee joint and you get into trouble. The knee will swell, and it may take a year or two for the knee to get well. That, of course, is easily managed by putting the gauze bandage over the skin up to the knee or just practically to it, and then the strips on that will allow the bandage to move and not pull on the skin.

I am sorry that nobody went into the open method of treating fractures. I had hoped somebody would begin on that and we would have a discussion along that line. But, as it wasn't broached, I don't feel like going into it now.

MY LIMITED EXPERIENCE IN THE MANAGEMENT OF HOOKWORM DISEASE.*

A. E. Cox, M. D., Helena.

This subject has been so thoroughly covered by the essayists who have preceded me that I certainly need not dwell on any of the phases of this diseases other than those met in the few cases which I have treated.

My attention was first directed to the subject of uncinariasis by the late Dr. Nicholas Senn in one of his highly interesting articles, "Travel Notes," in which he detailed the plan of treatment with betanaphthol, as then practiced in Porto Rico.

At about this time I had under my care a family of five people, father and mother and three children, who were decidedly anemic, and particularly the children, and especially one of the children, the youngest, whose age was five years. These people were of an average class of white, industrious folks, living in the fruit belt of Tennessee, some three miles in the country. The soil around them was largely sandy, and they had no privies. The soil about them had ample opportunity to become contaminated with uncinariasis, granting that this infection obtained with the parents even before the children were born.

I had treated the members of this family for some two years for anemia, using iron, arsenic, nux vomica—in fact, everything that I could think of that was calculated to relieve the aggravated form of anemia with

which they suffered. I succeeded in much dosing, but obtained practically no results. To the youngest child one evening I gave santolin and calomel, because it had a white ring about its mouth, together with the other common symptoms of the presence of ascaris lumbricoides in the intestinal tract, which was followed with castor oil with a few drops of turpentine the next morning. No ascaris lumbricoides were passed, but hookworms were. I recognized the presence of these parasites in the feces, because I had just read in Dr. Nicholas Senn's "Travel Notes" a description of them, and betanaphthol advised as the best remedy. I at once gave this child half-gram doses two hours apart, giving in all four doses, and following it up with castor oil. Hookworms were passed by the dozens. The other members of this family were similarly treated with proportionate doses of betanaphthol, and with excellent results. Tonics of iron and arsenic, etc., now did good service, but I am of the opinion that these people would have improved without the latter drugs almost as fast as with them, because they continued to improve long after these agents were stopped, and with the children the changes that took place within the next few months was almost phenomenal. From pale, anemic, undersized children, with distended abdomens, they became healthy looking, the color of their skins changed to normal, their abdomens returned to natural proportions, and they showed that good, rich blood of normal quantity was coursing their vessels.

These cases were encountered accidentally, as it were, but lately I have been looking for cases of this class of trouble. I have met two cases which were treated with thymol and magnesium sulphate in the ordinary way, and both of them recovered promptly, but as there is nothing unusual in the history of these cases, I shall not take the time to go into their full history.

In my opinion, the majority of cases of decided and persistent anemia in children that refuse to respond to proper treatment, malaria, tuberculosis and other diseases of like character having been excluded as the causative factor, uncinariasis may reasonably be assumed to be the underlying cause.

The microscope will settle the diagnosis, and I wish to particularly emphasize the importance of adopting the Bass method in preparing the stools for examination.

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

DISCUSSION.

Dr. Dinwiddie (Fayetteville)—I want to ask the gentleman, inasmuch as I have had no experience in the examination of the hookworm, about how many slides he considers necessary before he comes to a conclusion. Do you examine two, or half a dozen slides? Would you look if there is nothing suspicious in the character of the discharges, or perhaps the color of the feces, which might lead us to suspect the hookworm in a country in which it is discovered?

Dr. Blanks (Baxter)—I have treated some cases of hookworm with very good success with thymol. I had, comparatively speaking, perfect success. On making the diagnosis, the way I proceeded to make the diagnosis was, where they were suspected, to give thymol, and then made an examination. And it was with perfect success that I made the diagnosis and found the worm. And afterwards I gave them about three courses of thymol. That eliminated the worm; four or five grains to the adult; put it in three fifteen-grain doses, afterwards followed with a dose of salts.

Dr. McCammon (Arkansas City)—Dr. Cox referred to the term, "chronic malaria." Physicians that treat considerable malaria soon learn to become suspicious of any case that comes to you and tells you that they have chronic malaria. Oftentimes we find that these cases that come to us with a history of chronic malaria have a sputum that is loaded with tubercular bacilli, and in some cases, of course, it would be hookworm. I would just like to call to mind some information that was printed a few years ago in some of the journals at the time the United States government undertook to eradicate the hookworm disease from the island of Porto Rico. A very elaborate report of their work was made public in the Journal of the Association of Military Surgeons. Shortly after I read this report I received a pamphlet from M. J. Butterbock Company, of New York, who were the selling agents in this country for Gude's peptomangan, and they garbled the report of the army board in Porto Rico to read that there was no virtue in any iron preparation as compared to Gude's peptomangan for the treatment of the anemia in the hookworm disease. The next week after the Butterbock Company sent out this report there was published in the Journal of the American Medical Association an absolute

denial of this statement by the authors of the report that had appeared in the Journal of the Association of Military Surgeons, and stating the fact that they had found Bland's mass of iron had given them the best results in treating the anemia.

 THE COUNTRY DOCTOR'S ALIMENTATION.*

Charles S. Allen, M. D., Harmony.

Were it not for the qualifying words, "country doctor's," I could not hope to cover this, a subject of such broad scope and such vast importance, to the satisfaction of this, a rather exacting group of colleagues.

I have had some trouble, gentlemen, in determining, by the notices sent me, whether this society wishes to know what the country doctor eats or what he feeds his patients. As the former conclusion would no doubt bring up unpleasant memories to the most of us, I shall write under the latter.

Under the title, Enteric Diseases, may be grouped, in children, acute and chronic intestinal indigestion, acute gastroenteric infection, or gastroenteritis, or cholera infantum, ileocolitis, typhoid fever, etc.; in adults, typhoid fever, intestinal indigestion, acute and chronic, together with various enteric infections, including uncinariasis. I shall not attempt to prescribe a diet for all these various affections, but shall confine myself to typhoid fever and the enteric diseases incident to childhood, especially in the summer months.

If, in the treatment of typhoid, more attention was paid to the bowel function itself, the condition of the stools, by which the perfection or imperfection of digestion can readily be determined, and less attention to medication, the undertaker would be the chief loser.

As the bulk of bowel digestion consists of digestion of fats, common sense would teach us that when the bowels are diseased they are less able to perform their function, therefore demand a diet in which fats are low or absent. In the well-known pathological conditions accompanying typhoid, a food to meet our ideal must be non-irritating, digested principally in the stomach, concentrated, easily assimilated, and leaving a small residue. In my opinion, gentlemen, buttermilk comes nearest filling these requirements. In

*Read before the Johnson County Medical Society, February 6, 1911.

addition to being poor in fats, if of good quality it contains myriads of the bacillus *Bulgaris*, which by many, including myself, is believed to inhibit the growth and propagation of many pathogenic bacteria. It does not (unlike sweet milk) form irritating curds nor furnish a favorable culture medium if undigested, nor does it equal sweet milk in the quantity of gas formed when undigested, as it is fermented before being ingested. The proper quantity can only be ascertained by a careful study of the condition of the patient. Some patients readily tolerate one pint every four to six hours, while others cannot exceed six to eight ounces every four to six hours without disturbance of bowel function, manifested by tympanites, foul-smelling stools and diarrhea. However, all patients do not tolerate buttermilk. With these it is my custom to use a diet consisting largely of gruels made of rice, oatmeal, barley flour, or any of the uncooked cereals, made by boiling for three hours one ounce of the cereal in one pint of water. If gruel is too thick for drinking at the end of boiling, hot water may be added. The gruel thus prepared is used as a stock. It may be given plain, with salt or sugar, or both.

For the purpose of changing the taste, that the patient may not become intolerant, chicken, squirrel or beef broth may be added, two or three ounces to one pint of gruel. To an adult ten or twelve ounces may be given every three or four hours, five to six feedings in twenty-four hours. In the event of abdominal distention, the gruel may be dextrinized by adding cereo, one teaspoonful to the pint. With the few patients who cannot tolerate buttermilk, this diet has proven satisfactory in my hands.

Of the enteric diseases in children, indigestion predominates by far. In getting the history of our cases, regardless of the nature of the illness, we often learn that the patient has undigested stools. The intestinal equilibrium seems more easily disturbed than that of any other organ. This condition of intestinal indigestion is, almost without exception, due to errors in diet; either unsuitable articles of food are taken habitually, food is taken in too large quantities, or the intervals of feeding too short. The diet in each case is determined by the age of the patient, the character of the stools, nature and stage of illness, conditions of family with regard

to finance and intelligence, and sanitary condition of surroundings.

In breast-fed babies attacks of indigestion are rare, and may usually be traced to disease in the mother, or, what is a more prolific cause, improper living, as improper eating, poor sanitation (as baths, etc.), or too violent exercise.

No doubt all of us have been called to treat babies whose mother came in from the cotton patch and found baby vomiting or with an exhausting diarrhea. The only treatment usually required is the correction of the mother's habits, instructing her what, when, how and what quantity to eat; have her bathe, that the skin may help to throw off toxins created by destructive metabolism induced by violent exercise, attend regularly to her own bowel function, pointing out to her the fact that the physical welfare of her offspring depends largely on her own physical condition; then withdraw all food from baby for from twelve to twenty-four hours, resuming food by replacing part of mother's milk with rice water (tablespoonful of rice boiled in one pint of water three hours, replacing loss by evaporation), quantity determined by character of discharge; weight and age of patient, three to eight ounces every three to six hours. In the bottle-fed it is an entirely different matter. In these the most common error is overfeeding. Either a too strong dilution of cow's milk is given, or it is given too often or in too large quantities. Particularly is this apt to be so at the commencement of bottle feeding. Children of the same age cannot all be fed alike. Babies of equal health and vigor, but of different weight, require food of equal strength and at equal intervals, but the larger the child, the greater the quantity of food at each feeding. Thus, the quantity of food required for a four-months-old fourteen-pound baby will not suffice for a baby weighing sixteen pounds at the same age.

The following rule, taken from "Kerley's Treatment of Diseases of Children," has been of great service to me in helping me to estimate the quantity of food at feeding suitable for given age and weight:

"The average feeding for a fifteen-pound baby at six months old is six ounces. This quantity should be diminished one-half ounce for each pound under this until the quantity reaches four ounces, and for each pound over

this weight one-half ounce should be added until the quantity reaches nine ounces."

The digestive capacity of every child is diminished during illness. The extent of such reduction is in direct proportion to age of patient and in direct proportion to severity and duration of illness. More noticeable is this fact in gastroenteric diseases. A child with fever is apt to be thirsty and take more food than in health, thus increasing the task of an already overburdened digestive system. This frequently happens in summer diarrhea. In order to overcome this, I not only order the milk of the bottle-fed baby diluted, but instruct the mother of the breast-fed child to give it a drink of water before each nursing, and between nursings, and allow only one-half to two-thirds the time for each nursing that is usually consumed.

The above, gentlemen, is, in a general way, my method of feeding. Taking each specific condition separately, my diet is as follows:

Typhoid Fever—Buttermilk in various quantities, suited to condition and digestive capacity of patient.

Acute Intestinal Indigestion—In breast-fed babies, discontinue nursing and give barley, rice or granum water in suitable quantities until abnormal condition of stools disappears; in bottle-fed babies, the same gruel used in typhoid, or waters referred to above, are substituted for the usual modification of milk until stools lose their greenish color and abnormal consistency; then add skimmed milk gradually until gruel is again replaced by modified milk. In the chronic forms of above it may be necessary to alternate the gruels and cereal waters with pancreatized milk.

Acute Gastritis or Acute Gastric Indigestion—After twelve or twenty-four hours' abstinence from food, and probably a stomach washing, small quantities of water by the mouth, reinforced by normal salt enemas, the water gradually replaced by weak food mixtures, as whey, weak tea, chicken broth or barley water, given cold, as cold foods are usually retained better than heated ones.

Acute gastroenteric infection, or cholera infantum, we usually find as a secondary infection following one of the above mentioned conditions. All food is withdrawn and replaced by stimulants, such as brandy, strychnia, etc., until collapse and vomiting are prevented and controlled, then teaspoonful doses of plain water, barley water, granum, or rice

water, may be given at fifteen-minute or half-hour intervals, and increased in strength and quantity as conditions improve.

When the temperature has been normal for two or three days, and the stools have improved in character to such a degree that more frequent feeding is thought of, unusual care is necessary to avoid reinfection. It is, of course, our object to resume milk feeding as early as possible, but the amount given must be increased very gradually, giving from one-fourth to one-half ounce of skimmed milk with every second feeding. Even this small amount sometimes results in a rise of temperature and a return to diarrhea, indicating reinfection because of the favorable culture medium furnished by the undigested milk, allowing the bacteria to take on renewed activity, which may result in an illness exceeding the first in severity. Under such conditions we are fortunate indeed if a neighbor is near who can act as wet nurse to take the place for a few days of the mother, whose source of nourishment has failed from long disuse. This lacking, we must be resourceful indeed to surmount the difficulties confronting us. The animal broths are of little service. They contain but little nourishment, even when taken in large quantities, and exert a laxative effect on the already inflamed intestinal mucosa. Their only use is in giving small quantities, an ounce or two added to the gruel to make it more palatable. It is under such conditions that pancreatizing and dextrinizing processes are of considerable service, converting the starch into maltose, which is readily assimilable.

In ileocolitis, acute and chronic mucous colitis and intestinal catarrh little modification of the above regime is required. The whole may be summed up in a careful watching of the bowel function, carefully considering the age, weight and vigor of patient, local condition of bowels, and the sanitary conditions under which the food is apt to be prepared.

With these suggestions, gentlemen, carefully revised to suit the varying conditions in each case, conscientiously used and backed up by the intelligent use of drugs given with a view to correcting certain specific clinical conditions, we may hope to come up to the average, or even exceed the general average of recoveries in enteric diseases.

THE JOURNAL

OF THE

Arkansas Medical Society

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307-8 Southern Trust Building, Little Rock, Ark., to whom all communications should be addressed.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

Arkansas is to be congratulated, as the so-called optometry bill was killed in the Senate, where it originated.

We hope to have the program of the Fort Smith meeting ready for the April Journal.

Don't forget the date, May 2, 3, 4 and 5. The first day the House of Delegates will meet, and it is the duty of every delegate to be present, as there will be some questions come up that will mean much to the society.

At the instance of the editor of the Texas Medical Journal there is now on the calendar of both houses of the legislature a bill aiming "to prevent the procreation of lunatics, epileptics, imbeciles and other forms of degeneracy by the inmates of the several state asylums." Texas, in line with other states, is

becoming more and more aware of the rapidity with which degeneracy is increasing; and, with a view to prevent it as much as possible, it is designed to sterilize those known to contribute the greatest number to the list of degenerates. The framer of the bill states that in consequence of the crowded condition of the insane asylums many of the inmates have been given indefinite furloughs, and in order to render these harmless, and in the interest of race integrity, "a trifling operation which neither mutilates nor unsexes a person" should be performed. The first section of the act authorizes the superintendent of each insane asylum to appoint for each institution two skilled surgeons, who in conjunction with the physician or surgeon in charge, shall constitute a board, who shall examine the physical and mental condition of persons by whom procreation would be inadvisable. The family history, as far as it can be ascertained, shall also be carefully examined ere passing on the case. Upon the board finding that there is no probability of such person being improved to such an extent as to render procreation by him inadvisable, then it shall appoint one of its members to perform the operation of vasectomy, prior to furlough or discharge. For such operation the surgeon shall receive the munificent sum of three dollars from the state as compensation. The law is in operation in Indiana, and it is believed has already justified its enactment. This journal is heartily in favor of such a law, and regrets that the crowded condition of the calendar of the Texas legislature seems to preclude its enactment at this session. The entire profession of the state should demand the passage of the law. It truly is in the interest of race integrity.—The Lancet-Clinic.

NOTICE.

The State Medical Association of Texas will meet at Amarillo, Tex., May 9, 10 and 11, 1911, and have extended a cordial invitation to all members of the Arkansas Medical Society to meet them at this time.

THE DEPARTMENT OF HEALTH OF PENNSYLVANIA.

In examining the blood from acute cases of poliomyelitis in the human beings and also in monkeys, in which the disease was produced experimentally, an organism was

found, different in morphologic characteristics from any heretofore described which may or may not, on further investigation, prove to be the etiological factor in the causation of the disease. Blood smears being fixed in methyl alcohol for one minute and stained with carbol-thionin, the organism appears as a faintly stained blue rod with regular cell wall about ten microns long and about .8 microns in width, curved at an angle of sixty to seventy-five degrees at one end, occasionally at both ends. At times the curved end is bulbous. Some of the organisms appear to have a very finely granular protoplasm when the highest amplification is employed. They may be discerned by means of a 4 m.m. dry objective, but their characteristics are much more satisfactorily delineated under the 1-12 oil immersion lens. They are found free in the serum as well as within the body of the red blood cell.

The organisms do not retain the violet color when stained by the method of Gram, but assume the color of the counter stain, which, as generally used in this laboratory, is a very dilute solution of carbol fuchsin.

The bloods examined were from ten different cases of acute poliomyelitis in children and were taken during the epidemic of last summer and autumn, and from thirteen cases of the disease during the acute stage, which had been produced experimentally in as many monkeys.

Blood smears from three normal human beings were carefully examined, and although the search for these organisms was diligently made, none were found. Smears were made from the bloods of thirteen normal monkeys with negative results. After inoculation with the virus these same monkeys gave positive results. The blood of other normal monkeys gave negative results.

Blood smears were stained with iodine and sulphuric acid, in order to test the organisms for cellulose, but no blue stained organisms were seen.

Smears from the cords and brains of paralyzed monkeys and from one human case were examined, but none of the new organisms were found.

Filtered virus stained with carbol-thionin and by Gram's method showed none of these organisms.

Defibrinated blood, three weeks to two months old, from two paralyzed monkeys showed the forms in increased numbers.

Cultures made from the blood of a paralyzed monkey, in blood bouillon, plain bouillon and blood agar, examined after having been inoculated three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time, but the organism was not found in smears from the surface of the medium or from the water of condensation.

We have searched without success for moving organisms in fresh blood, in old tubes of defibrinated blood from paralyzed monkeys, in blood bouillon, plain bouillon, serum bouillon cultures three weeks old and in the condensation water in three weeks old cultures on Dorsett's egg medium under dark field illumination.

Success in isolating the organisms has not attended our efforts as yet.

THE PROPHYLAXIS OF MEASLES.

It is difficult to find either a physician or a layman today who has the temerity to expose a healthy child to contact with one who is suffering from scarlet fever, with the avowed object of infecting the healthy child. With measles it is different. Not a few non-professional people are inclined to advise, and even take pains to expose healthy children to infection from patients suffering from measles, with the hope that the healthy children may contract the disease.

The circumstances connected with the two diseases are somewhat different. Scarlet fever, as has been pointed out in the Journal, is a disease to which not all persons are susceptible, a considerable number enjoying either an absolute immunity because they never contract the disease, or an immunity because they have already passed through the disease in so mild a form that it has not been recognized. Measles, on the other hand, is a disease to which practically every individual who has not already suffered an attack is susceptible. It is one of the most contagious of all diseases, ranking in this respect with smallpox and typhus (the genuine typhus, not typhoid) or ship fever.

It seems almost invariably true that one attack of the disease protects against subsequent attacks, though most writers teach that a second, third and even fourth attack is not uncommon. It is probable that when these repeated attacks are alleged to have occurred, some of them at least were other

cutaneous infectious diseases, especially so-called German measles, or some eruptive but noncontagious disease.

Many cases might be cited illustrative of these points, but only two or three will be mentioned here. The famous epidemic reported by Dr. Panum, the Danish physician, in the *Archives generales de medecine*, April, 1851, has been mentioned by numerous writers from Watson to Osler. This epidemic occurred in the Farøe Islands, in 1846. No measles had been known in this group of seventeen small islands since 1781 until on March 28, 1846, the disease was introduced by a man who had come from Copenhagen. In October of the same year the disease had entirely disappeared, and during the interval which had elapsed, of 7,782 inhabitants of the islands, 6,000 had had the disease; 1,500 persons who had established quarantine against the disease escaped.

In 1875 it is reported that measles was carried by a ship of the British navy from Sydney to the Fiji Islands, and in the succeeding epidemic 40,000 out of the 150,000 inhabitants died in four months. This shows the terrible severity of the disease in people who have no hereditary partial immunity.

In the Civil War a large number of soldiers had measles, and many died from it. This disease occurred more frequently in the regiments which were recruited in the country towns than in those which were recruited in the large cities, this being explained by the fact that in country towns epidemics occur at longer intervals, so that a large number of boys reach manhood without having had the disease, while in the large cities epidemics are frequent and few boys grow to manhood without having experienced it.

These instances show that practically everyone is susceptible to measles until he has had it, and that an attack in adult life is generally more severe than in childhood.

Taking these facts into account, one may well question first, whether it is possible entirely to prevent epidemics of measles; and second, whether, if it is possible to prevent them, is it desirable to do so?

On the other hand, it has been observed that children under six months of age are less likely to take this disease than older children, and that extremely old people are less susceptible. Also, it seems to be a fact that the disease is most disastrous in its ef-

fects on infants, on children who have scrofulous glands, on persons who are tuberculous, or who have any tendency to tuberculosis, on individuals who are debilitated from any cause, and on women who are pregnant or who have recently been confined.

The above being true, it certainly can be reasonably asserted that the effort should be made to isolate children who are suffering from measles in order to prevent the spread of the disease, at least to people in whom an attack of the disease is likely to be followed by disastrous results. The details which should be carried out in order to accomplish this are not very different from those applicable to the prevention of scarlet fever, as given in *The Journal*, March 4, page 667.

The contagious element of measles appears to have less vitality and to resist the ordinary measures of disinfection, including sunlight and fresh air, much less strongly than does the contagium of scarlet fever. The contagion of measles seems to exist very extensively in the secretions from the nose, throat and mouth, and the disease seems to be especially contagious during the period when the catarrhal symptoms are manifest, but before the cutaneous eruption appears. This increases the difficulty of enforcing efficient quarantine, for ordinarily, before the eruption appears, the child is believed to be suffering merely from a cold, and by the time the eruption appears and the quarantine is enforced many children have been exposed to the disease. When the disease is prevalent, children who show symptoms of a cold in the head should be suspected of perhaps having measles and should be promptly quarantined, but at the beginning of an epidemic it is rare that a child will be placed in quarantine before the eruption has appeared.

The general rule that well children should be kept apart from sick children is not usually followed with reference to children who are suffering from catarrhal affections of the nose and throat. When the rule is extended so as to apply to these patients, both whooping cough and measles will be less rapidly passed around among the children.

The measures enumerated as applicable to scarlet fever and which are also applicable in cases of measles may be briefly summarized as follows:

The isolation of the patient in a remote room of the house.

The selection of a single immune person to care for the patient.

The wearing by the physician of a linen or rubber coat, when he visits the patient, which is removed outside of the patient's door.

The destruction of books and toys, which have been used by the patient, at the end of the period of quarantine.

The disinfection of dishes and clothing before they are removed from the sick room.

At the end of the period of quarantine, which in the case of measles unattended by complications should be three weeks, the bathing and shampooing of the patient, and dressing him in fresh clothes.

The disinfection of the room, after it has been vacated, by the vapor of formaldehyd and by exposure of the room so far as possible to fresh air and sunshine.

The carrying out of these rules is a duty which every head of a family owes to the community, and especially to his neighbors who are at either extreme of life, or who are in delicate health. Such preventive measures should be enforced not only by the physician, but also by the sanitary authorities of the town.

As has just been said, sunshine and light are essential to the killing of the germs of all diseases, and especially of measles; hence, the room of a patient suffering from measles *should only rarely be kept dark during the day*. The patient's eyes may be efficiently protected from light by blue or smoked glasses.

The prolonged cough of measles after the period of quarantine is over should be treated as though the patient had incipient tuberculosis, and then the number of secondary deaths from measles will be cut in half.—*Journal A. M. A.*

THE PROFESSION OF MEDICINE AND A BUSINESS CAREER.

The question has often been asked why physicians are unable to follow other lines of business, so-called side lines, and be a success in these, and yet suffer no diminution in their ability to diagnose and treat disease conditions. Surprise has been expressed that

medical men cannot successfully enter business, and still continue the practice of their profession on the same high plane as before. The general result of attempting to follow profitable "side lines" has been with few exceptions such signal failures that the surprise of the public is perhaps pardonable. Business men take positions in the Board of Directors of large and influential corporations, they often own two or three flourishing business concerns, each of which, with competent assistance, is managed easily. But the medical man who strays outside the fold of his exacting profession to increase his income or find a vent for superfluous energy in a business venture usually fails. The cause, after all, is obvious. As the editor of the *Medical World* reminds his readers, the successful physician must think in medicine. He must be permeated with medical thought, his ideas must have a medical tinge or flavor, he must in a sense live in medicine, breathe in a medical atmosphere, his every action must be governed by the jealous mistress to whom he has consecrated his career. Medicine exacts the most complete submission. She will have no other goddess to share her place. She consents grudgingly to incursions in allied fields of endeavor, biology, sociology, the classics, literature; but these must always be secondary to the predominating interest. Dividing the attention due to medicine, and bestowing time and energy on foreign interests invariably brings with it its penalty. Hence, the tendency of successful medical men is to be a trifle narrow. They have but a limited amount of energy, and this is concentrated in one all-absorbing calling. It is to be regretted that man cannot be versatile and be a success in all things. The law of nature forbids it. The young physician entering on his career is given his choice; he may be a successful medical man in all that the term implies, if he will promise to think and act and feel in medicine. He cannot go beyond the narrow limits of his profession; to do so invites disaster to his ambition to excel in medicine.

This explanation will account for the fact that a business career and the profession of medicine cannot be followed successfully by one and the same person. They are as incompatible as an acid and an alkali.

REPORT OF LOOMIS SANATORIUM.

The 1910 report of Loomis Sanatorium, Liberty, N. Y., for the treatment of tuberculosis, shows that 416 patients were admitted during the year and 411 discharged. The physician-in-chief, in summing up the work of the year, emphasizes the fact, to which attention was called in the report for 1909, of the undoubted relation between the length of stay in the sanatorium and the result of treatment, at least so far as the class of "apparent cures" is concerned. Thus, in 1907, with an average stay in the institution of 31.44 weeks there were 18.80 per cent of apparent cures; in 1908, with an average stay of 43.09 weeks, the apparent cures were 21.52 per cent; in 1909, with an average stay of thirty weeks, the apparent cures were 15.61 per cent; while in 1910 the average stay was 26.62 weeks and the apparent cures amounted to but 12.30 per cent. This relation is also borne out in the class of incipient cases. In 1908, for instance, 72 per cent of incipient cases were discharged as apparently cured, after an average residence of 25.83 weeks; in 1909, but 43.75 per cent after a stay of 19.62 weeks, and about 50 per cent in 1910 after an average residence of 19.66 weeks. It is found that this applies not only to the immediate results, but has a bearing on the ultimate results after the patient leaves the sanatorium. Forty-nine patients received tuberculin treatment in addition to the other measures, thirty-three of these for a period exceeding ninety days. One died. All the rest were improved, arrested or apparently cured. Following out the plan conceived and mentioned in the report for 1909, a more scientific method of feeding the patients has been followed during the past year. Careful weighing of the food, and computation of the chemical constituents, and more extended experience have permitted the division of the patients into three classes with regard to their diet, with the result of securing a diet more nearly adapted to the individual requirements, with consequent greater benefit to the patients. The report still further confirms the conclusion that the sanatorium treatment of tuberculosis presents great advantages over any other plan.—*Journal A. M. A.*

AMERICAN ACHIEVEMENTS IN THE TROPICS.

In declining an invitation to attend a banquet, President Taft made this fine tribute: "We have real ground for national pride in the fact that England, France, Germany—Germany not so much so—and Holland have been engaged in the colonial business in the tropics for 100 years, some of them 200 years, and yet it remained for American physicians, and especially the physicians in the army, to discover more things in the ten years since the Spanish-American War than were discovered in the whole two centuries before that time; and if nothing else justified the Spanish-American War, the discoveries of the American physicians since that time—what I may term the sequence of the war—were ample to justify the expenses of that war to ten times over. It is a real record of achievement of a national character that everyone who understands it must dwell on with sincere pride."—*Journal A. M. A.*

DR. OSLER'S CHALLENGE.

There is a fine article by Dr. William Osler on "Man's Redemption of Man"—fine in spirit as well as fine in literary style—in the December number of McClure's Magazine. One item in it pleased me very much. Here it is:

"I would like to say a word or two upon one of the most terrible of all acute infections, the one of which we first learned the control through the work of Jenner. A great deal of literature has been distributed casting discredit upon the value of vaccination in the prevention of smallpox. I do not see how anyone who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of *The Journal of the Antivaccination League* for a 'curious silence' on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected vaccinated persons and ten selected unvaccinated persons. I should prefer

to choose the latter—three members of parliament, three antivaccination doctors, if they could be found, and four antivaccination propagandists. And I will make this promise—neither to jeer nor to jibe when they catch the disease, but to look after them as brothers, and for the four or five who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an antivaccination demonstration.”

For the information of our antivaccination friends, and to facilitate their rush to England (which we sincerely hope may follow this announcement), we beg leave to announce that Dr. Osler may be addressed in care of Oxford University, and that the steamship lines are offering very attractive rates for those desiring to cross the Atlantic during the Christmas holidays.—Clinical Medicine.

Deaths.

Dr. W. B. Outten died at his home in St. Louis March 20, age sixty-six. Dr. Outten was well known to the profession in Arkansas. He was chief surgeon to the Missouri Pacific-Iron Mountain Railroad for more than thirty years.

Personals.

Dr. J. P. Runyan is building a private hospital.

Dr. W. H. Abington, Beebe, was quite painfully hurt March 17 by stepping into the elevator shaft at St. Vincent's Infirmary, but we are glad to state that he was able to go home a few days ago.

County Societies.

FRANKLIN COUNTY.—For the first time in many months the Franklin County Medical Society held a meeting at the regular date, Tuesday, March 7, with several in attendance. The old officers were reelected as follows: President, Dr. J. C. Harrod; vice president, Dr. H. F. Williams; secretary-treasurer, Thomas Douglass; delegate, Dr. W. W. Rambo; alternates, Drs. Blackburn and Harrod.

Dr. W. E. Jones, of Charleston, was elected to membership.

Dr. W. P. Evans, of Cecil, was elected an associate member.

At our next meeting we will discuss the “Clinical Significance of Albuminuria.”

THOS. DOUGLAS, *Secretary*.

WASHINGTON COUNTY.—The Washington County Medical Society will meet at Fayetteville on the first Tuesday in April, 1911, room 53, courthouse, at 1:30 p. m. Drs. H. D. Wood, F. B. Young and D. C. Summers have been appointed to read papers. Subjects, respectively, “Diagnosis,” “Treatment” and “Complications of Typhoid Fever.” A full attendance is desired.

NINA V. HARDIN, *Secretary*.

News Items.

The following doctors from Arkansas are doing post-graduate work at the New Orleans Polyclinic: Drs. N. R. Townsend, Arkadelphia; Q. R. Galloway, Alma; M. V. Russell, Bodcaw; E. F. Brewer, Augusta; J. A. Thompson, Dermott; J. C. Tankersley, Nashville; A. S. J. Collins, Monticello; J. H. Setzler, Hamburg; O. J. T. Johnson, Batesville; F. T. Isabel, Horatio.

Book Reviews.

Gynecological Diagnosis.—By Walter L. Burrage, A. M., M. D., clinical instructor in gynecology, Harvard University; 625 pages; 207 illustrations. Price, \$6.00. D. Appleton & Co., New York, Publishers, 1910.

This work is limited entirely to diagnosis, as its title indicates. It is a practical textbook, and one of its best features is its simplicity; it takes up the more common diseases with which the general practitioner comes in contact, and keeps in the back ground the rare conditions with which the specialist is so much interested in. The book is written almost entirely from the clinical point of view, and the differential diagnosis is gone into very minutely. A new feature of a work of this character is the important place given to the diseases of the bladder and rectum. A chapter is especially given to the gynecological affections of infancy and childhood.

It is a work that will be well received by the profession.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

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Next Annual Session, Fort Smith, May, 1911.

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 Tuberculosis Committee—F. B. Young, Springdale, chairman; H. T. Thibault, Scott; A. J. Vance, Harrison.

COUNCILOR DISTRICTS AND COUNCILORS. 1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
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PELLAGRA.

A. J. Vance, M. D., Harrison.

Pellagra is derived from Latin "Pellis" and Greek "agra," meaning "skin seizure," or, as translated by some, "rough-skin." Defined as an endemic skin and spinal disease of southern Europe said to be caused by damaged or diseased maize, but dependent also upon bad hygienic conditions, lack of proper food and exposure to the sun. It is marked by exfoliation of the epidermis, weakness and debility, digestive disturbance, spinal pain, convulsions, melancholia and idiocy.

The first report of the disease was in Spain in 1735, about forty years after the introduction of Indian corn.

In 1750 it broke out simultaneously in several districts in Italy and in a few years it has spread throughout Lombardy. It was called Lombardian leprosy and many cases have since been diagnosed leprosy.

It began to invade other districts and in 1810 it traveled southward, at the same time became more prevalent throughout Lombardy and contiguous districts.

Frapolli of Milan in 1771 was the first to describe the disease and to call it pellagra. He declared it was ancient, having been observed as early as 1578, since which time Italy has been a hotbed for it. In 1879 there were reported 97,855 cases. In 1881, 104,067 cases, in 1899, 72,603 cases, in 1884 it was estimated that there were 10,000 pellagrins in hospitals and insane asylums. In 1905 there were reported 55,029, with 2,359 deaths; about the same number of cases in 1907, but only 376 deaths, a reduction of 43 per thousand to 7 per thousand in two years.

History does not show, as far as I can ascertain, why this great reduction in mortality. It is decreasing in intensity, at the same time it is increasing in area, developing in parts of Italy previously free from it.

Nearly the whole of southern Europe seems to be fertile soil, but it seems to prevail with greater intensity in Italy, among the peasantry, except in southern Italy, which seems to be exempt.

The first reported case in Roumania was in 1810. In 1859 there were 4,500 cases; in 1885, 10,626; in 1886, 19,797; in 1898, 21,272; in 1906, 30,000; in 1907, 40,000.

France's first reported case was in 1818. One French physician reported 200 cases out of a population of 6,000, in the Landes district.

First reported case in Africa was in 1847. In Egypt in 1893, since latter date in Austria, England, Asia Minor, Servia, Bulgaria, India, West Indies, Barbadoes, Southern Mexico, several South American countries, and very recently in the United States of America by officers in asylums in South Carolina and Alabama.

Prior to these reports in 1907 there had been only four cases reported in the United States.

At the annual meeting of American asylum physicians held in Washington, D. C., in 1864, Dr. Gray of New York and Dr. Tyler of Massachusetts each reported a case of probable pellagra with mental symptoms. Harris of Georgia and Sherwell of Chicago each reported a case in 1902.

Dr. C. F. Williams, secretary of South Carolina State Board of Health, last year sent out 164 inquiries in an effort to gather statistics on pellagra, and from twenty-two replies he received reports of 1,000 cases scattered throughout thirteen states—90 per cent

being reported from Georgia, Alabama and South Carolina and Texas.

A few cases have recently been observed in New York, Pennsylvania, Kansas, Illinois, Arkansas, Texas, Porto Rico and the Panama canal zone.

Last November the writer had a case in practice; parenthetically, this fact accounts for this ancient history and tedious statistics being imposed upon this society.

Dr. C. H. Lavinder, passed assistant surgeon of Public Health and Marine Hospital Service, in 1909 made an estimate of 5,000 cases in the United States. Some of the reports from Georgia and South Carolina suggest that the disease has probably existed twenty to thirty years.

Marzari was the first to call attention in 1810 to the relationship between the use of corn and pellagra. He asserted the poor quality of the corn lacked sufficient gluten to make good food and was, therefore, the cause of pellagra.

Vincenzo Sette in 1826 asserted the main cause of pellagra to be a fungus growth on the corn, producing acid decomposition of the oils in the corn.

As early as 1776 an ordinance was passed in Venice prohibiting the sale or exchange of corn having a bad taste or odor. Nothing further was done to check the disease until 1845, when Ballardini demonstrated that pellagra was caused by damaged corn used for food.

In Italy it is attributed especially to the use of corn grown in situations which do not permit the corn to come to full maturity.

Peasants live largely on "palenta," or corn meal mush. There is nothing to indicate that pellagra is caused by corn per se, but by corn not fully matured and stored in damp places and allowed to mold.

In 1856 pellagra became epidemic in the Island of Corfu about the time the peasants commenced to grow grapes instead of corn, importing their corn from Roumania, where inferior grades of corn were grown and where pellagra had been prevalent for twenty-two years.

It is asserted that the cause of pellagra in our Southern states is the use of imported corn. Cotton is grown largely and corn is imported. Competition is so strong that inferior grades of corn are imported and sold for food.

The etiology of pellagra was discussed during a two days' session of the conference on

pellagra in Columbia, S. C., last November. Some claimed it was caused from damaged or diseased corn. One physician suggested the cause to be corn and something in the corn.

Others reported cases that could not be in any way attributed to corn. At the close of the conference, the following resolutions were unanimously adopted:

"Resolved, That this conference recognizes the widespread existence of pellagra in the United States and urges on the national government the necessity of bringing its powerful resources to bear on the vital question of its cause, prevention and control.

"Resolved, That while sound corn is in no way connected with pellagra, evidence of the relation between the use of spoiled corn and the prevalence of pellagra seems so apparent that we advise continual and systematic study of the subject and in the meantime we commend to the corn growers the great importance of fully maturing corn on the stalk before cutting same."

It is evident from the language of the resolutions that there was a difference of opinion as to the etiology.

Italy has decided the etiology and has passed stringent laws which provide for free distribution of salt and prohibition of sale of spoiled corn.

There is a difference of opinion as to whether pellagra is contagious or infectious.

It was discussed freely at the South Carolina conference, but no decision was reached. It is probably not contagious. There is no history of quarantine or isolation measure adopted in Italy, where they have had more experience than any other country, but all their efforts to eradicate it have been in the direction of supplying the peasants with good corn and in teaching them the art of agriculture, especially urging them to use corn which has fully matured.

With the limited experience of physicians in the United States, the prognosis is considered grave in all cases, as to ultimate recovery. Statistics are very meager and very unsatisfactory, based altogether on asylum cases, which give a mortality of 67 per cent.

In Italy in 1883 and 1884 the average mortality was 13 per cent; in 1905, 4.3 per cent; in 1907, .7 per cent. Ten per cent became insane, and these rarely ever recover.

It is essentially a chronic condition. In Italy it is said some pellagrins live twenty-

five years. Dr. Babcock of South Carolina reports cases of eight to twelve years' standing who were still in good physical condition.

It is liable to recur months after recovery seems to be complete, and death frequently follows the second or third attack.

In this country nearly all the deaths have occurred within a few weeks or months.

Much credit is due Dr. Charles Wardell Stiles for his investigations and expositions of the hookworm and its menace to the people of the South, but the hookworm with all its horrors is not to be compared to the dreadful results of pellagra. Its victims who do not succumb at once are liable to repeated attacks, or to become incurably insane.

Report of Case.—Lady, white, age 52; consulted me Nov. 28, 1909. About four weeks previously a briar stuck in her left thumb. In a few days a small abscess formed. Nov. 21 glands in axilla began to swell. A surgical dressing was put on the thumb, which was suppurating slightly, and axillary gland painted with Tr. Iodine Co. Dark red spots on forehead, behind each ear and on dorsal surface of each hand and wrist. Diagnosis of pellagra was not made at this examination. In about ten days nausea, but no vomiting, excessive flow of saliva, general stomatitis, cardinal tongue, patient complained of burning and smarting of hands and very painful to the touch and when allowed to hang down would feel as if they would burst; patient also very nervous during the day and slight delirium at night; hands tremulous, knee jerk slightly exaggerated.

Patient says she never ate cornbread. At expiration of five weeks no traces of disease except a slight discoloration of skin on back of fingers and hands.

In the preparation of this paper I have consulted all authorities available, which were very few. I claim no credit for presenting anything new. My object is to warn members of this society who are not already on the alert to prepare for war in time of peace, for this formidable foe must be met by many of us sooner or later.

My apology for presenting this hurriedly-written paper is this: Our energetic secretary wrote me a few weeks since, the section would be short on papers and urged me to come to the rescue.

The time has been too short to consider symptomatology and treatment.

DISCUSSION.

Dr. James Parker (DeVall's Bluff)—I wish to thank Dr. Vance for his paper. I read a paper reporting three cases of pellagra at the Third District Medical Society at Lonoke last fall. I met with my first case in 1905. I would like to state that this disease has probably prevailed in this country several years, but it has been overlooked. It is a very difficult disease to diagnose in its earliest stage. They will come to the doctor usually complaining of some form of indigestion, nervous, pain in the abdomen, in the region of the stomach, and the doctor is very apt to think that he soon can relieve them, prescribes for them and assures them they will soon be all right, and they are apt to call again in a week or ten days, and report that they are getting no better. He prescribes again, and they go away, and the next time they consult a physician it is more than likely to be another one. I have had this experience. But my first two cases finally drifted back to me. The first case I had was a young colored girl that took sick with the disease in the early summer of 1905; she complained of general weakness, inability to work, and some form of pain in her stomach that I could not understand. I thought it was possibly from indigestion. I prescribed for her and she got no better. She began to grow thin, and I suspected tubercular trouble; but I could not find any evidences of tuberculosis. Finally she employed another doctor, and went from one physician to another. The following spring she called me again. Marked nervous symptoms had begun to show up by this time. There were some signs of mental deterioration, and she complained of pain in the region of the spine. There were some ataxic symptoms. I thought of locomotor ataxia, and everything else. Notwithstanding she lived about eighteen months, she died before I could make a diagnosis of her case.

The second case I had was in 1908, a colored barber, about 56 years of age, was taken sick during the holidays, and the doctor prescribed for him and something like ten days or two weeks later he developed a very severe stomatitis, with a profuse flow of saliva. He thought the doctor had salivated him. The saliva had a saltish taste. He said if he held a lump of salt in his mouth it tasted no more like brine than that saliva did. After trying in vain for a month or such matter to relieve his condition he discharged his physician and

called me. I could not see any signs of salivation, that is, from mercury; but I tried in vain to relieve that flow of saliva. I had only to do it by giving him about one grain of opium with atropin, which combined had a very good effect in controlling the flow of saliva, and also the diarrhea that had developed. Skin lesions showed up a little later, about a month before his death, which occurred in August, eight months after the appearance of the first symptoms of the disease.

Dr. J. J. Smith (Paris)—I have had five cases at Paris in the last twelve months. They were all in different families—no two of them related so far as I know. The youngest one was 17; the oldest 43. Two of them died, one of them is approaching its end. The others are taking the course that those have already taken. As to the etiology of the disease, I believe it is generally conceded that it is some intestinal infection, either from the food taken in or in the process of digestion. However, that it is the result of eating impure corn, that is undecided. All these cases in the first place became more or less emaciated; nervousness; digestion disturbed; diarrhea; finally, skin eruptions, sore mouth, sore tongue, ulcers in the mouth, and every one of them had vulvo-vaginitis before the eruption appeared upon the hands. Nobody said anything about the treatment. I suppose there is nothing beneficial in the treatment. I have never found anything of any benefit or any help. These people are all in ordinary circumstances, eating about the ordinary food of the neighborhood in the country. As far as I know they all ate corn products; I had them all put off of it when they fell into my hands. One of these cases had an eruption last summer, and it disappeared in the winter and it has come back now this year. Two and a half years ago I was called to a case. The eruption appeared and disappeared each winter succeeding and came out in the spring. It came out again this spring. I do not think the woman is going to live very long.

I have seen seventeen cases altogether in and around Paris; have treated thirteen cases, with six deaths.

Dr. R. W. Lindsey (Little Rock)—Generally speaking, I find that the people who know the least about pellagra have the most to say about it.

I never saw but one case in my life, and that was in St. Louis, at the Mississippi Val-

ley Medical Association, brought from North Carolina by Dr. Wood. Dr. Wood is the physician who made a report of 200 cases in Osler's Modern Medicine, coming from the two Carolinas, Georgia, Alabama, Mississippi and Texas. He brought one case from North Carolina to the society, and showed it as an example. He reported in the same family three cases. In this family the man had been a miller. These children, he said, ran around the mill there as he ground the corn and played in the corn. One lived five years, the other four. They were taken with diarrhea, vomiting and sore mouth, and went on and had these paroxysms year after year. They would come on in the spring and get better until the last year, when each one of them died insane.

The child he exhibited had the eruptions on the hands and feet where they had been exposed to the rays of the sun. He had all the appearance to me of a case of mix-edema, showing that he was in a condition to become an idiot. The only person that discussed that paper was the superintendent of an insane asylum in Indiana, who gave a report of some sixty cases that he had in the asylum. You will notice in the report of the colored insane asylum in Alabama there were some eighty of the inmates had pellagra and that 64 per cent of them had died of it. Most all of the cases in the insane asylums in Italy are cases of pellagra. These cases to my mind are inherited; they are born with that predisposition to take on insanity, and become insane. It is the belief that it is produced by Indian corn or maize. My idea is it is produced in the same manner as scurvy. You can produce the same conditions that you have in scorbutus by eating any kind of diseased food.

Dr. Vance—I would like to hear from Dr. Stiles.

Dr. Stiles (Washington, D. C.)—In going around through the South I have seen a great many cases of pellagra, but I have had so many other things on my mind and conscience that I haven't really been able to study the subject to an extent that would justify me in having any independent opinion of the disease. While I can usually recognize a case when I see it, still I found a number of cases that are under treatment for other things and haven't been properly recognized. I doubt whether I could add anything to the discussion. I thank you very much for calling on me.

Dr. Vance—I thank the gentlemen very much for their interest in the paper. That is the only object I had in presenting the paper—to get a discussion and get the subject agitated. Through the courtesy of the superintendent of our State Hospital for Nervous Diseases I went through there recently and found no cases at all. I would like to suggest, while I am on the floor, that we make an effort next year to get a symposium on this subject, and have a more thorough discussion at our next meeting.

AN UNUSUAL CASE OF APPENDICITIS.

C. G. Pettus, M. D., El Dorado.

Having been forcibly impressed with the fact that confusion is likely to occur in the diagnosis of the chronic stage of appendicitis and that a pathological knowledge in all appendical trouble is good stock to have on hand, as was so emphatically demonstrated, I have decided to report a case which was extremely interesting to myself and the consulting physicians. Upon operating a somewhat unusual condition was found to exist.

The beginning was ushered in with the classical symptoms of appendicitis, with no reasonable grounds for a mistake. It was a desperate case. A boy seven years old, giving the history of first attack, and until the onset was in perfect health.

On my first visit I found him with distended abdomen, complaining of pain on right side, just in the right place, with rigidity of muscles on that side; nausea and vomiting; with an expression of pain and anxiety which is seen only in extreme cases. Pulse 160; temperature 100; respiration 30.

My treatment was simple indeed, withholding everything from the stomach except an occasional dose of codeina in peppermint water; giving enemata of saline solution of about a pint with two drachms of whiskey, four or five hours apart; giving two high enemata daily; which generally acted well, relieving the bowels of effete matter and gas. This treatment was pursued for about a week, when his improvement was so marked that his stomach could tolerate medicine and light diet; pain practically subsided.

He continued to improve for about another week, his temperature becoming normal, pulse 80, but gaining little strength, when he suddenly began to complain of pain on urination. A discharge was found to pass just after the act was completed, which,

upon examination, proved to be pus, and the passing of it produced the pain.

He did not complain of any other pain, except when pressure was practiced; then pain was elicited over the entire abdomen. There was no localized pain; tympanites constant; an enlargement tumorous in appearance, extending across from right to left iliac region. Bowel movement was satisfactory, it being rarely the case when a cathartic was administered; no vomiting; extremely anemic. After going along in that way for another week and showing no improvement, I considered that he had regained sufficiently to undergo an operation, and suggested that he be sent to an infirmary for an appendectomy. My request was complied with.

At this stage my consultants came in, who were as efficient as could be desired. No case was ever gone into with more thoroughness, and, with the exception of cystoscopic examination and urethral catheterization, there was no room for improvement in the examination.

The physical examination revealed nothing of importance or definite. A little fever was beginning to run; profuse sweating with symptoms previously described. These symptoms were so obscure that my consultants were not in favor of an operation until they could see something more conclusive.

The examination of urine revealed an alkaline reaction, with ammoniacal odor; specific gravity 1018; color cloudy; albumin; no sugar, no cast; epithelium cells; pus; blood cells and bacteria present; amount secreted normal, but not passed as frequently as ordinarily, due to the pain produced by the act.

The blood examination revealed an increase of leucocytes; decrease of red corpuscles. The most significant symptom was pus in the urine. Where did it come from? The fact that urine was allowed to accumulate in large quantities in the bladder, for the reason above stated, that act producing pain, ruled out bladder involvement.

The attraction to the kidney or pelvis predominated in the minds of my consultants, the fact being that a pyogenic infection of the kidney or its pelvis are peculiarly devoid of characteristic symptoms. At times the symptoms are wanting altogether, or are so vague and indefinite as to be regarded as due to some other cause. However, by a careful examination of the urine some light should be thrown on a considerable

proportion of these cases. In many instances the onset is insidious, the pain not acute; and with low temperature; while in others the disease may be ushered in by symptoms most severe pain, chill, high temperature and aggravated constitutional disturbances. At times the symptoms are due to primary diseases, and in many instances may absolutely dominate the picture. For instance, during an infectious disease secondary to cystitis, vesical paralysis, gonorrhea, prostatic hypertrophy, appendicitis, etc.

The variety of symptoms in renal infection is such that to my mind more confusion is experienced in diagnosing the condition than any other disease with which we come in contact.

It has only been in the last few years that diseases have received much attention, and the literature, especially that devoted to autopsy records, abounds in undiagnosed cases, regarded during life as malaria, appendicitis, gallstone, diseases of the bladder, etc., or even believed to have been no infection at all. An acute attack usually has the symptoms of an acute inflammation, constitutional disturbances, etc., while in the chronic form acute exacerbations are frequently met with, the symptoms resembling those of an acute attack; or the symptoms may have entirely disappeared or become slight.

It is not at all uncommon for the acute cases and the exacerbations of the chronic cases to be regarded as appendicitis, and there being nothing classical in the presenting symptoms, accounted for their attention being drawn in that direction.

As to the urine, we could not consider, even linked to other facts and conditions, anything definite or conclusive.

In pyelitis if the bacteria causes alkaline decomposition of urine, the odor will be ammoniacal; but that alone will not cause the odor. Specific gravity is of no especial consequence. We would expect to find albumin with pus in the urine. There was no good reason to suspect such disturbance of metabolism that sugar would be present.

As hyaline, granular and epithelium casts are found in cases of pyelo nephritis, but not invariably, the absence of casts and the presence of epithelium at this juncture did not answer pro or con. Stratified epithelium cells suggested destruction going on somewhere, but the epithelium of the bladder re-

sembles that of the ureter and pelvis of kidney; so the point of destruction was not clear. Pus cells was evidence of destruction going on somewhere around the urinary apparatus, and with such destruction we should expect to find blood corpuscles.

Little could be determined or relied upon from the blood examination. The stress laid on the existence of leucocytosis in appendicitis is not as important as we may think, although it is often an aid in differentiating between appendicitis and other painful affections not inflammatory in nature.

While just a short time back practically every German authority spoke of the leukocyte count as a symptom in appendicitis just as prominent as any other, still in Keen's latest Surgery, Da Costa says: "In differentiating appendicitis from other abdominal inflammations, the blood gives little or no real help. For example, in pyosalpinx, ovarian abscess, pyonephrosis, perinephritic abscess, gall bladder, hepatic abscess, empyema, cecal cancer, intestinal obstruction and mesenteric thrombosis, there may be identical degrees of leukocytosis and of iodophillia.

The euberculin eye test was employed, it being negative, and the fact that pus cells and red blood cells are often absent in a miliary getastatic abscess of the kidney, secondary to an infection and the urine very much diminished, due to primary process with other symptoms, ruled out a tubercular condition of kidney.

My description is hardly a synopsis of the condition and symptoms and our line of reasoning crudely expressed, even from that you may imagine our mystification. Horse-shoe kidney sarcomata or kidney was considered and after deliberating over the matter for about a week it was decided to operate. The result was the finding of the distal end of appendix attached to ureter with no further complication. The removal of the appendix cleared up the condition, the wound was drained and, with the exception of a sinus of considerable depth forming, which took some time to heal, the young patient made an uneventful recovery.

DISCUSSION.

Dr. Runyan (Little Rock)—The case is not exactly clear to me; that is, the description of the case is not exactly clear to me, that this condition was due to the fact that the appendix was attached to the ureter. The

doctor failed to state that there was any opening or connection between the appendix and the ureter whereby the pus and other constituents that were found in the urine might have passed through. I hardly see how just the mere fact that the appendix was attached to the ureter, unless he was able to discover some communication, could have caused these constituents to get into the urine. But the doctor's history of the case further states that the case made an uneventful recovery, and not finding any other cause I take it for granted that possibly there must have been some communication between the diseased appendix and the ureter. Not having had a microscopic examination, as I understand, it is impossible to say that he had a diseased condition higher up that got well about the time he removed the appendix. It is all a matter of theory, it seems to me. But it is a fact that the appendix will play more funny tricks than most any other organ inside the body. Quite often we are mistaken in our diagnosis. At least, I am, and I presume several of the others are in the same fix with me. We open up the belly for some other condition and fail to find what we are looking for, and have to resort to the old appendix to find the cause of the trouble. That usually comes to your rescue and helps you out in your extreme cases, and you usually find something there to remove and do the patient no harm. Just the other day I had a case come to me. By the way, it is a case that lives in El Dorado, Dr. Pettus' home. This case was taken to various and sundry doctors, including Dr. Pettus, and each one of them made a diagnosis of gall stones. When he came to me, he described his condition to me, and without any hesitation, after getting a full history of the case, I said, "Well, you have got gall stones." He said, "That's what five other doctors told me." I said, "I presume that's right." He said, "I have decided I want to go to the root of the trouble, whatever it is." I opened the belly, expecting, of course, to find gall stones. But, after getting in there, I discovered as healthy a looking gall bladder as I ever found inside of a normal belly. I noticed at the same time the appendix very firmly adherent. I made my incision larger and strayed lower down and beyond the point of fixation over the appendix. With very great difficulty, I succeeded in getting the appendix out, and found that it was very badly diseased, and

that was all the trouble he had in there. The patient is getting along very well, and I hope he will do as Dr. Pettus' patient did—make an uneventful recovery.

I wish to congratulate the doctor on the recovery of his patient. I presume that he must have had a communication between that diseased appendix and the ureter which explains it, inasmuch as there was nothing else to be found, and his patient made a nice recovery.

Dr. Williams (Pine Bluff)—How do you account for the hematuria in this case?

Dr. Pettus—There was no hematuria. We found the blood cells by using the microscope.

TONSILLECTOMY—ITS INDICATIONS AND METHODS.*

R. H. T. Mann, M. D., Texarkana.

For some time after this operation was being successfully performed by some of the best men in America I hesitated in doing it, for I felt that the tonsils served some useful purpose in the economy of man, of which we possessed no knowledge. The great number of examinations, however, which were made by different microscopists over the country revealed the fact that the tonsils did not differ in any particular from the other glandular tissues of the neck. Where tonsils were enlarged and produced obstruction of the respiration, operations performed with the tonsillotome resulted in a cure in a certain per cent of cases, and the remaining part of the tonsil became atrophied and gave no further trouble. But in many of these cases the tonsillar tissue which was left became hypertrophied, necessitating a second operation, which was always a disappointment to both the family of the patient and the operator. The tonsillotome never possessed any value in those cases where the tonsils were not enlarged, except during acute attacks of inflammation, at which time no operative procedure could be undertaken. Attacks of tonsillitis would occur several times a year, and when the tonsils were not in a stage of active inflammation they were usually inflamed sufficiently to be a constant annoyance to the patient. In my opinion chronically inflamed tonsils are productive of more serious disturbances in the throat than the symptoms would indicate. Ragged tonsils, which will retain particles of

*Read before the Sebastian County Medical Society, April 11, 1911.

food to become decayed, standing as they do at the very portals of the air passages, form a suitable lodging place for bacilli of every kind, and it is there that many constitutional diseases have their origin.

The tonsils do not have to project beyond the pillars of the fauces to cause annoyance, submerged tonsils often giving the most trouble, and the diagnosis cannot be made unless the patient gags.

It was on this last named class of patients, with ragged tonsils, having crypts extending completely down to the capsule, suffering with inflammations more or less all the time, on whom all other means of cure had been tried, that I began to do radical tonsillar operations, and by radical operations I mean a complete removal of the tonsils within their capsules. My results from the first few operations were indeed so gratifying that I have gradually extended the field for this operation, until now the tonsillotome has practically disappeared from my practice.

The complete removal of a tonsil is much more difficult and dangerous than to cut off a part of the tonsil with the tonsillotome. The time necessary for the patient to remain in the hospital and under the observation of the operator is much longer, and the constitutional symptoms are often much graver than from a simple tonsillectomy. The happy results following this operation and the consciousness to the operator that he will not again have to perform this operation are sufficient grounds for its undertaking.

At first there were many details to be worked out in performing this operation. The question of anesthesia was a puzzling one, and the control of hemorrhage presented many difficulties to be overcome. I consumed an hour in performing my first few tonsillectomies, but by gradually improving my technique the shortest time in which I have been able to remove one tonsil is three minutes, and now it is a rare occurrence when I consume more than fifteen minutes in this operation. This, however, does not include the time required to administer the anesthetic, whether general or local. Time, as you know, is a great factor in operating on children, who stand the shock so poorly.

Where it can be done, twenty-four hours' preparation should be given the patient for this operation. A general anesthetic is best in operating on children, but in adults a local anesthetic is best, unless the patient is very

nervous, then a general anesthetic should be given. When operating on adults, whether under general or local anesthesia, the patient should be given, hypodermically, one-fourth grain of morphine and one-one hundred and fiftieth grain of atropine half an hour before the operation.

When a local anesthetic is used, patients sit during the operation, but under a general anesthetic the head should hang over the end of the operating table to prevent blood from flowing down the larynx. In local anesthesia, the palate and fauces are swabbed three or four times with a 4 per cent solution of cocain. After ten minutes, one-half of 1 per cent solution of cocain, to which one-third by volume of one-one thousandth adrenalin chlorid has been added is injected in two or three places through the anterior pillar of the fauces, behind the tonsil. Then, after a minute or two, the tonsil can be removed with little or no pain. When a general anesthetic is administered, a weak solution of adrenalin chlorid is injected, but not the cocain. In children, under general anesthesia, it is necessary to use the mouth gag and pass a thread through the end of the tongue to hold it out. Drawing a needle and thread through the tongue does not produce as much soreness as forceps or any other instrument would, necessary to draw the tongue out, and is not in the way of the operator.

The tonsil is next well grasped with a pair of strong forceps (Ballinger's are the best I have seen for the purpose), and drawn well out toward the middle of the mouth. In children it will not do to use too much traction, as it produces a peculiar laryngeal noise, which is always an indication to lessen the force. With the tonsil drawn out, the outlines of the gland can be distinctly made out, and with either a tonsil dissector or a pair of blunt scissors, beginning at the top, the posterior capsule can be loosened from its attachments, and by blunt dissection of the tonsil can be completely removed, except at its lowest part. While this dissection is being done, if hemorrhage should occur, it is far better to stop the bleeding by compressing the parts with a pair of hemostats than to leave the bleeding spot until the tonsil has been entirely removed, and then try to control the hemorrhage, for then, instead of having one bleeding spot, there may be several, which make the control of hemorrhage a far more difficult matter. After the tonsil has been

sufficiently loosened from its base, the forceps with which it has been drawn out are removed, and it is passed through the ring of a cold wire snare, again grasped with the forceps, and the snare passed well around its base, and with the cold wire it is removed. The hemorrhage, which is sometimes severe and difficult to control, unless the bleeding parts are picked up as they occur, as I suggested, is of great annoyance to the operator during the operation. When the hemorrhage has been severe there may be some shock following the operation.

The after-treatment consists in spraying or using deeply a peroxide of hydrogen gargle and mopping out the throat with a peroxide or some antiseptic solution. Peroxide has given me the best result. In some of these cases there will be some infection following this operation, and the patient may have a little temperature for two or three days. This, however, will be rare if the secretions of the body are acting normally. Should infection occur, it usually subsides in a few days, as the draining from the wounds is ample. The large cavities left between the pillars of the fauces fill in within a few weeks, and an examination reveals no cavity.

DISCUSSION.

Dr. Caldwell (Little Rock)—I agree with Dr. Mann absolutely in what he says about the complete removal of the tonsil. I find, as he says, that the tonsil that is giving the most trouble oftentimes is not the enlarged tonsil, but the ragged tonsil that is almost covered up by the pillars. On examining them we can run a probe far up into the tonsil where the crypts have broken down, and the tonsil looks not unlike it had been slit. I have oftentimes given great relief in these cases, where an operation is not consented to, by cleaning these cavities out, and touching well, deep into the cavity with nitrate of silver.

My method of procedure in operating is a little different from Dr. Mann's. I use a sharp, angular knife to dissect the tonsil (the sharper the knife, the better). Then, after I have the tonsil well dissected, I remove it by means of a curved knife, blunt on the end; have one knife for each side, but only one dissector. I much prefer operating under local anesthesia, as we can do a better piece of work, and, I think, with

less danger to the patient. By carefully injecting the solution into the tonsil, we can do it in most cases painlessly, except for the gagging. I always use a solution of beta-eucain and adrenalin to inject the tonsil, as I consider it less toxic than cocain. I never purposely inject a pillar, as it often balloons up and obstructs the view of the tonsil. This was the sad experience I had while operating on some of my first cases.

I want to thank Dr. Mann for his paper, and have enjoyed it very much, and wish to express my appreciation of it.

Dr. J. G. Watkins (Little Rock)—Dr. Mann has very aptly described the conditions necessitating a removal of the tonsils and his method of operating. I agree with him thoroughly. He has said nothing with which I wish to take issue.

As to the method of operating, that does not make so much difference, just so the tonsil is removed completely. I do not believe this can be done so well with a tonsillotome as by dissecting the tonsil from its bed and applying the snare. I prefer to operate when using a local anesthesia, as I believe a more satisfactory operation can be done and with considerably less risk to the patient. Cocain is the anesthetic usually employed. I have tried Dr. Thibault's quinin in urea on a number of patients and found it as efficient as cocain; the only bad effect I noticed was an enormous, but temporary, enlargement of the uvula in one patient on whom I had used it for a tonsillec-tomy of both tonsils.

Dr. Pettus (El Dorado)—I was highly entertained by the paper, and a fact is revealed to me that for years has not been clear; that is, a recurrence of throat trouble after the removal of the tonsils with the tonsillotome. Numbers of patients who had been to the specialist, and with the instrument just named were operated on, returned to me for further treatment. My knowledge was so limited I did not know the reason for this recurrence, but this paper makes it apparent to me, and convinces me of the advantage of a complete removal of tonsils rather than clipping them off with tonsillotome. The cogency of his reason is such that I propose to return to my little town in south Arkansas and exchange my tonsillotome for a rectal speculum.

Chairman—I will ask Dr. Thibault to give us some points as to local anesthesia by the use of quinin et urea.

Dr. Thibault—I have had no clinical experience in these cases, as I do not do that kind of work. I can only refer you to the literature on the subject.

Dr. Mann—I have nothing to add, except to thank these gentlemen for the free discussion which the essay has elicited, and for their favorable comment on the procedure proposed.

THE CO-OPERATION OF THE PHYSICIAN AND SURGEON IN THE TREATMENT OF ACUTE INTRA-ABDOMINAL DISEASES NECESSARY TO OBTAIN THE BEST RESULTS.*

J. P. Runyan, M. D., Little Rock.

Any acute intraabdominal pain which persists for more than a few minutes without relief is always looked upon with suspicion by the surgeon, and should excite more than a passing attention of the medical attendant. It should, at least, not be viewed with complacency, nor dismissed by administering a hypodermic of morphine without further inquiry into the nature of the pathology and a close scrutiny of the symptomatology to try to determine the particular organ which may be involved, giving rise to the pain.

So much may depend upon the early recognition of the seat of the pathology that it is quite important, before administering an opiate, to make a thorough examination, since an opiate may so mask the symptoms as to make an exact diagnosis almost impossible, as the relief wrought by the administration of the hypodermic injection may transpose an anxious and suffering patient into the realms of perfect abandon, free from all cares and anxiety as to the true condition, giving a sense of false security that will admit of no advice that carries with it the suggestion of immediate operation. Not alone is the patient lulled into this false sense of security, but oftentimes the doctor, mistaking the silence of his erstwhile complaining patient for an improvement, fails to see the flag of distress until the more ominous signs, such as rapid and feeble pulse, hippocratic facies, high temperature, or, it may be, a subnormal temperature, remind

him that, while his patient may have been induced to remain quiet for a time, the colon bacillus, or some other pus-producing organism, has not been passive, but, on the contrary, has been quite active in producing a pathology that has succeeded in changing the complexion of the case from a comparatively simple one to a most formidable condition. My contention is that in just such cases it is the duty of the attending physician to summon a surgeon to attend the case with him, in order that those cases which may require surgical intervention may be operated on under the most favorable circumstances, and not operated upon at a time when the prognosis is questionable—the period when the attending physician of the past told the family the patient must be operated on or die. We all know what the outcome usually was when the physician of some years ago was willing to abandon his skillful treatment in favor of that of the surgeon with the above well-known alternative. Fortunately for suffering mankind, both doctors and laity, with a better understanding of pathology and the importance of early operation, are insisting that the advice of surgeon and physician go hand in hand.

Notwithstanding the notable improvement brought about through improved education, for which postgraduate schools are largely responsible, there is still much to be desired. There is not yet enough coördination between the professors of medicine and surgery in the teaching of their respective branches. I do not desire to be iconoclastic in my denunciation of the value of medicine in the treatment of disease; on the contrary, where it can be shown that a drug is specifically indicated, by all means let it be understood that I heartily endorse its administration. But when it can be demonstrated that the administration of a drug is harmful in its effects, I do think we should hesitate to give it simply because we think it is necessary to give something, and, if we do not know what else to give, give a purgative. I want to register a protest against giving purgatives in any intraabdominal inflammatory conditions until all acute symptoms shall have subsided. In my opinion, these cases are all made worse by their administration, and many cases that would become circumscribed if left alone, when thus interfered with become diffuse. Many cases of general peritonitis fall into my hands with a beautiful history of having been fairly well

*Paper read before the Pulaski County Medical Society, Little Rock, Ark., March 20, 1911.

circumscribed by nature, notwithstanding the handicap of purgatives administered, which, thanks to the nausea which caused their expulsion until such time as the more acute symptoms have subsided, when the medical attendant, not content with nature's improvement of the case, sees fit to renew his attack upon the poor, unfortunate individual, who has about all the burden he is able to carry, by giving him another "round of purgative," which acts as the proverbial straw that breaks the camel's back, in that nature's circumscribing inflammatory dam is broken through by the mighty force of the peristaltic force of the bowels, in response to the purgative almost invariably given, without which, if it should be given and the patient improves soon after, the doctor is likely to think his patient might not have recovered. In 99 per cent of cases if no purgative is administered, just as soon as the acute inflammation process subsides, nature's purgative, normal peristalsis, will succeed in producing a stool that will astonish the doctor who hitherto has been relying so strongly upon drugs.

Better still is it that early operation be done before such complications as abscess formation, general peritonitis, and the like, are allowed to develop. While I shall not pretend to say that all complications may be avoided by the general rule of calling the surgeon to attend, with the internist, from the beginning, all cases of intraabdominal pain, I do believe early operation would become the rule, and early operation would, no doubt, mean a great reduction in the mortality. There is another feature, other than the reduction of mortality, to be taken into consideration, namely, the time of disability. An uncomplicated case of appendicitis, if seen at the beginning, may be operated on, and in a week be ready to go home, whereas if given the expectant treatment, plus a few doses of purgative, such complications might arise, during that week, that would take the patient weeks, and even months, to recover from, if, indeed, such complications did not result in the death of the patient. The fallacy of advising patients who have had one or more attacks of appendicitis to wait for another attack before submitting to operation is fast disappearing from the mind of the internist. This advice has cost the lives of hundreds of patients who willingly would have consented to be operated on, but for the ill-advised advice of the family physician. The same is

true of many other conditions which should and could be corrected if only the internist and surgeon cultivate more cordial and intimate relations in their every-day work.

The study of living pathology is worth much more to the profession of medicine, as well as to the laity, than deadhouse pathology. If the internist could be interested in seeing all his cases operated upon which are referred to the surgeon, I am sure it would have a salutary effect, in that he soon would become convinced that early operation is much more desirable than deferred operation. When we recall that 70 per cent of cases of cancer of the stomach develop upon an old healed gastric ulcer, it at once becomes apparent that there is a casual relation between gastric ulcer and gastric cancer.

Abdominal surgery, during the last decade, has done much to throw light on the pathology of gastric diseases which has enabled us to give relief in many cases which hitherto were being treated more or less empirically, and incidentally being responsible for the sale of much patent medicines advertised as sure cure for dyspepsia.

The stomach is a fire alarm box, pain in the stomach indicating there is a conflagration somewhere in the abdominal cavity, but not necessarily in the stomach itself. A full history of the case and a careful examination may fail to reveal the exact location of the pathology, but the present status of the surgery of the abdomen is such that we are not only justified in doing so, but it is our duty to explain to the patient that in many cases an exploratory operation is necessary before an exact diagnosis can be made. Moreover, because we are not able to differentiate between a cholecystitis, appendicitis and duodenal ulcer, is not sufficient to justify us in saying no operation should be performed when the symptoms are such that we are convinced that there is enough pathology to warrant its removal.

Another thing of importance that should not be overlooked is that in obscure diagnoses, where operation is undertaken, the incision should be such as to allow of exploration, in addition to operation, for the relief of the suspected pathology, for the purpose of determining if any other pathology exist, which may also be removed. Otherwise, surgery well done may fall into disrepute.

To better illustrate, not long since I witnessed an operation on a patient, the history

of which was such that a positive diagnosis could not be made, but the diagnosis lay between gall stones, appendicitis and duodenal ulcer. An incision was made, though, so that all three organs could be examined, and all three conditions found to exist. The appendix was removed, a gastroenterostomy done, and the gall bladder drained, after removal of a number of stones. Had one been content to make a diagnosis of appendicitis in this case, any bystander would have been satisfied with the diagnosis on seeing the condition of appendix removed, which could have been removed through an incision that would not have admitted of an examination of the other organs involved, but evidently the patient would not have been well without the correction of all three conditions. A most important aid to diagnosis is the taking of the history based upon years and years of experience in the operating room. Many symptoms are meaningless to the beginner which are full of significance to the man of ripe experience. The time is well spent that is given to eliciting a full and complete history of each and every case before offering advice and treatment.

PUBLICITY vs. QUACKERY AND OTHER FRAUDS.*

J. D. Southard, M. D., Fort Smith.

As the representatives of the rational scientific practice of medicine, our responsibilities have never been so great as they are today. In all history the world has seen nothing like the possibilities of preventive medicine of the year 1911. But as one after another of the most destructive diseases yield to our science in its onward movement, we have left the public far behind, to grope its way in the darkness and become the victims of patent medicine vendors, quacks and frauds. I believe we should adopt some means to enlighten the public mind, relative to our profession, what it stands for, what it does and what it can do. If the public health bill now pending in the legislature shall be defeated it will be because paid newspaper editors, Christian Scientists, patent medicine vendors, osteopaths, homeopaths, eclectics and other frauds find it so easy to influence the ignorant public mind. If our people could be awakened and enlightened, the Owen bill, which, in its results, if it should become a law, would be the

most important and far-reaching of any enacted by Congress in a century, could be easily passed, and our own health law would find little opposition.

The antivivisectionist, the antivaccinationist and the Medical Freedom League succeed in stirring up the people and securing their support by playing upon their ignorance, while our great light is hidden from them by our antiquated notions of ethics. I believe every medical society in this country should have a committee on publicity, which should tell the people what is being accomplished by the Rockefeller Institute and all other agencies engaged in medical research and sanitation. Medical frauds of every description should be exposed; falsehoods, such as those published in an editorial by one of our local papers recently, denouncing the pending health bill, should be pointed out, and the narrow, selfish writers and their ignoble motives should be unmasked and made known. Such organizations as the so-called League for Medical Freedom should likewise receive attention, while, on the other hand, the advances of medical science should be put before the people by authority which they cannot question, and in language they cannot fail to understand. Articles on sanitation and hygiene, eugenics, the social evil and other subjects relating to the prevention and control of disease, by members of this society, would be interesting and profitable to the public, and go far to lessen the ignorance and superstition concerning medical matters, while at the same time it would increase the respect, esteem and confidence of the people in the members of the regular profession by proving that they deserve it. The difficulties encountered by all of us and by the health department in our efforts to enforce sanitary regulations and measures to prevent and control contagious diseases arise largely from ignorance, from a lack of knowledge of these conditions upon the part of the people necessary to intelligent coöperation with us, and to a reasonable appreciation of our motives and methods.

The public should know that such diseases as tuberculosis and typhoid fever are communicable and preventable, and how. They should be instructed as to the value of breathing fresh air twenty-four hours of each and every day, and how, by proper ventilation and living, to secure it without harm to themselves. Simple and trite as these truths are to us, we all know from experience most people have not yet learned them. They need

*Read before the Sebastian County Medical Society, April 11, 1911.

to be told over and over again of the danger from flies and mosquitoes and how to avoid it. We should not wait for these important truths to slowly filter through from unreliable and unauthoritative sources, but should send them forth from the pens of our best and ablest men, and let the people know that it is to the regular, scientific doctor, and not to the irregulars, quacks and members of medical freedom leagues that they owe their immunity from disease and the blessings of health which they enjoy. It would be entirely proper, I think, for everybody to know that the only therapeutic principle which the homeopathic school has ever evolved is embodied in the statement that "the hair of the dog is good for the bite." But even the homeo-

path of today would first sterilize his hair, and the moment he does so he repudiates his dogma and adopts the principles of science. Why not let them know the truth about the eclectics also? Of their only claim to recognition, which they have practically abandoned, as the homeopaths have also theirs? I think it would help the public and not injure science to publish the truth concerning the false claims and pretences of osteopathy and of that other cult which has in it nothing of either Christ or science. We understand these frauds; the public do not. And so long as we permit this condition to continue, we do so to the detriment of the public and to the injury of our profession.

THE JOURNAL

OF THE

Arkansas Medical Society

Owned and controlled by the Arkansas Medical Society and published under the direction of the Council monthly.

Edited by

C. P. MERIWETHER, M. D.

307-8 Southern Trust Building, Little Rock, Ark., to whom all communications should be addressed.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

EDITORIAL.

We have tried very hard to get this issue of The Journal to our readers before the Fort Smith meeting, and hope you will look over many of our shortcomings.

Thirty-Fifth Annual Meeting

OF THE

Arkansas Medical Society

Fort Smith, Arkansas

May 2, 3, 4, 5, 1911

OFFICERS.

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Third Vice President—Thad Cothren, Walcott.

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Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

OFFICERS OF SECTIONS.

Practice of Medicine—Chairman, T. F. Kittrell, Texarkana; secretary, A. S. Buchanan, Prescott.

Surgery—Chairman, Henry Dickson, Paragould; secretary, Will Owen, Paragould.

Obstetrics and Gynecology—Chairman, S. J. Hesterly, Prescott; secretary, W. W. Rice, Prescott.

Pathology—Chairman, M. D. Ogden, Little Rock; secretary, William H. Deaderick, Helena.

State Medicine and Public Hygiene—Chairman, St. Cloud Cooper, Fort Smith; secretary, Anderson Watkins, Little Rock.

Dermatology and Syphilology—Chairman, Samuel Steer, Hot Springs; secretary, M. F. Mount, Hot Springs.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

J. F. Clegg, Siloam Springs.

E. C. Hay, Hot Springs (term expired).

Alternates.

L. H. Barry, Hot Springs.

G. A. Warren, Black Rock (term expired).

MEMBERS OF STATE BOARD OF MEDICAL EXAMINERS.

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H. Thibault, Scott.
A. J. Vance, Harrison.

Committee on the Consolidation of Medical Colleges.

Chairman—F. B. Young, Springdale.
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George F. Hynes.
H. Moulton.
St. Cloud Cooper.

Hotels.

Hotel Main.
Goldman Hotel.

ANNOUNCEMENTS.

REDUCED RATES TO FORT SMITH.

All railroads in Arkansas will make a rate of one and one-third fare to Fort Smith on account of the meeting of the Arkansas Medical Society, tickets to be on sale April 30, May 1 and 2, good to return not later than May 8.

Members on arriving at Fort Smith should repair at once to the registration office at the Goldman Hotel, where they may register and receive badges and programs.

ENTERTAINMENTS.

Wednesday—Reception by citizens and members of the Sebastian County Medical Society, at the Casino, Electric Park, 8:00 p. m.

Wednesday Afternoon—Reception for visiting ladies at the Country Club, 3:00 to 5:00 p. m.

Thursday—Banquet, Hotel Goldman, 9:00 p. m.

PUBLIC MEETING.

A public meeting of the Committee on State Medicine and Public Hygiene will be held at the High School Auditorium, Tuesday, 8:00 p. m. Subject, "Tuberculosis." The public is cordially invited.

PROGRAM.

House of Delegates—First Meeting, Tuesday, May 2, 9:00 A. M., Sebastian County Court House.

Order of Business.

1. Call to order by the president, R. C. Dorr, Batesville.
2. Prayer by Rev. H. W. Bartels, Fort Smith.
3. Address of welcome, J. C. Amis, president Sebastian County Medical Society.
4. Appointment of Committee on Credentials.
5. Recess of ten minutes.
6. Call to order by the president.
7. Report of Committee on Credentials.
8. Roll call.
9. Reading of minutes of previous meeting.
10. Appointment of reference committees.
11. President's address to the House of Delegates.
12. Report of secretary.
13. Report of treasurer.
14. Report of Standing Committees—
 - (a) Committee on Arrangements; chairman, J. G. Eberle, Fort Smith.
 - (b) Committee on State Legislation and Public Policy; chairman, F. T. Murphy, Brinkley.
 - (c) Committee on Scientific Program; chairman, B. L. Harrison, Little Rock.
15. Report of Special Committees—
 - (a) Committee on Consolidation of Medical Colleges; chairman, F. B. Young, Springdale.
 - (b) Committee on Tuberculosis; chairman, F. B. Young, Springdale.
 - (c) Committee to Visit University of Arkansas, Medical Department, and College of Physicians and Surgeons; chairman, F. B. Young, Springdale.
16. Report of chairman of Council, J. C. Wallis, Arkadelphia.
17. Reading of communications.
18. Reading of memorials and resolutions.
19. Selection of Nominating Committee.
20. Appointment of standing committees.
21. Appointment of special committees.
22. Election of officers (morning of last day).
23. Unfinished business.
24. New business.
25. Selection of time and place of next meeting.
26. Adjournment.

SECOND DAY, WEDNESDAY, MAY 3.

10:30 A. M., Sebastian County Court House.

GENERAL SESSION.

Opening Program.

Invocation, Rev. M. McKay, Fort Smith.
Address of welcome on behalf of the Fort Smith Commercial League, Hon. James F. Read, Fort Smith.

Address of welcome on behalf of the Sebastian County Medical Society, H. Moulton, Fort Smith.
 Response to the address of welcome, F. Vinson-haler, Little Rock.
 President's annual address, R. C. Dorr, Batesville.
 Adjournment.

SCIENTIFIC SESSION.

2:00 P. M., Sebastian County Court House.

Section on Dermatology and Syphilology.

Chairman—Samuel Steer, Hot Springs.
 Secretary—M. F. Mount, Hot Springs.
 1. Chairman's address, Samuel Steer, Hot Springs.
 2. "Symmetrical Gangrene of the Skin," William R. Bathurst, Little Rock.
 3. "Syphilis and Problems in Its Prevention," Errett Myers, Fort Smith. Discussion opened by E. G. Epler, Fort Smith.
 4. "Treatment of Syphilis with Salvarsan," H. P. Collings, Hot Springs. Discussion opened by W. V. Laws, Hot Springs.

Section on Pathology.

Chairman—M. D. Ogden, Little Rock.
 Secretary—William H. Deaderick, Marianna.
 Chairman's address, Mahlon D. Ogden, Little Rock.

Section on State Medicine and Public Hygiene.

(This section will be held at the High School Auditorium, Tuesday evening, 8:00 o'clock.)
 Chairman—St. Cloud Cooper, Fort Smith.
 Secretary—Anderson Watkins, Little Rock.
 1. Chairman's address, St. Cloud Cooper, Fort Smith.

Symposium on Tuberculosis.

2. "Benjamin Rush and Others on Consumption," J. T. Clegg, Siloam Springs.
 3. "Some Needs of the Hour in Controlling Tuberculosis," J. D. Southard, Fort Smith.
 4. "Sanatoria and Hospitals for the Tubercular," J. S. Shibley, Booneville.
 5. Open discussion.
 6. Adjournment.

THIRD DAY, THURSDAY, MAY 4.

8:30 A. M., Sebastian County Court House.

GENERAL SESSION.

1. Call to order by the president, R. C. Dorr.
 2. Reports of committees.
 3. Unfinished business.
 4. New business.
 5. Adjournment.

SCIENTIFIC SESSION.

Section on Medicine.

(9:00 o'clock a. m., Sebastian County Court House.)
 Chairman—T. F. Kittrell, Texarkana.
 Secretary—A. S. Buchanan, Prescott.
 1. Chairman's Address, T. F. Kittrell, Texarkana.
 2. "The Correlation of Diseases of the Kidneys, the Heart, the Digestive Tract, and the Organs of Respiration," E. G. Epler, Fort Smith.

3. "Rheumatism and Infected Joints," M. G. Thompson, Hot Springs.

4. "A Plea for the Early Recognition and Cure of Pulmonary Tuberculosis," W. N. Yates, Fayetteville.

5. "Bronchoscopy for the Removal of Foreign Bodies From the Upper Air Passages, With Report of Cases," R. H. T. Mann, Texarkana.

6. "Tabes and Pseudo-Tabes: Differential Diagnosis, and Report of Two Cases," E. P. Bledsoe, Little Rock.

7. "Report of Cases of Pellagra," C. M. Luterloh, Jonesboro.

8. "Mitral Regurgitation, with Report of Cases," K. M. Kelly, Texarkana.

9. "Coincidence From Medical Viewpoint," W. W. Rice, Prescott.

10. "On the Treatment of Typhoid Fever and its Most Frequent Complications," O. O. Hammonds, De Queen.

11. "Diet in Typhoid Fever," T. E. Fuller, Texarkana.

12. "Pathology and Etiology of Malaria," William Krauss, Memphis, Tenn.

13. "The Practical Treatment of Malaria," M. M. Norton, Sunnyside.

14. "Relation of the Meningococcus and other Bacteria to Meningitis," Nettie Klein, Texarkana.

15. "The Use of the Flexner Serum in Cerebro-Spinal Meningitis," Allen E. Cox, Helena.

16. "Cerebro-Spinal Meningitis, With Report of Cases Treated With Flexner's Antimeningitis Serum," A. L. Carmichael, Little Rock.

17. "Acute Anterior Poliomyelitis," D. C. Walt, Little Rock.

18. Adjournment.

FOURTH DAY, FRIDAY, MAY 5.

8:30 A. M., Sebastian County Court House.

SCIENTIFIC SESSION.

Section on Obstetrics and Gynecology.

Chairman—S. J. Hesterly, Prescott.
 Secretary—W. W. Rice, Prescott.
 1. Chairman's address, S. J. Hesterly, Prescott.
 2. "Relation of Rectal Diseases to Gynecology," E. L. Beck, Texarkana.
 3. "The Management of the Parturient Woman," D. W. Kirby, Gurdon.
 4. "Ectopic Gestation," W. A. Snodgrass, Little Rock.
 5. "The Repair of Perineal Lacerations," H. D. Wood, Fayetteville.
 6. "The Pathological Sequences of Cases of Neglected Laceration of the Perineum and Cervix, and a Plea for Immediate Repair," E. E. Barlow, Dermott.
 7. "Curetage: Its Indication and Technic," R. L. Saxon, Little Rock.
 8. "Obstetrics and Gynecology in Country Practice," F. B. Young, Springdale.
 9. Adjournment.

GENERAL SESSION.

1:30 P. M., Sebastian County Court House.

1. Call to order by the president, R. C. Dorr.
 2. Reports of committees.
 3. Unfinished business.

4. New business.
5. Introduction of newly-elected officers.
6. Adjournment, sine die.

SCIENTIFIC SECTION.

2:30 P. M., Sebastian County Court House.

Section on Surgery.

Chairman—Henry Dickson, Paragould.

Secretary—W. R. Owens, Paragould.

1. Chairman's address, Henry Dickson, Paragould.

2. "The Surgical Treatment of Ascites and Some Other Serous Effusions," J. F. Binnie, Kansas City, Mo.

3. "Symposium on Gall Bladder Disease"—

(a) Etiology and Pathology, St. Cloud Cooper, Fort Smith.

(b) Symptomatology and Diagnosis, A. E. Sweatland, Little Rock.

(c) Medical and Surgical Treatment, Carl Bentley, Little Rock.

4. "Symposium on Appendicitis"—

(a) Etiology and Pathology, J. P. Runyan, Little Rock.

(b) Symptomatology and Diagnosis, W. V. Laws, Hot Springs.

(c) Medical and Surgical Treatment, Oscar Gray, Little Rock.

5. "The Management of Fractures and Crushing Injuries of the Extremities," James A. Foltz, Fort Smith.

6. "Abdominal Incisions for Exploratory Purposes," Charles S. Holt, Fort Smith.

7. "Surgical Hernia," H. H. Kirby, Little Rock.

8. "Volvulus of the Sigmoid, with Report of Cases," H. H. Rightor, Helena.

9. "Surgical Treatment in Trachoma," Robert Caldwell, Little Rock.

10. "Treatment of Common Infected Wounds," J. S. Rinehart, Camden.

11. "Splenectomy Following Gunshot Wound of Abdomen," Preston Hunt, Texarkana.

12. "Diagnosis and Surgical Treatment of Urinary Calculi," L. E. Willis, Newport.

13. Adjournment.

For the convenient reference of those who may wish to attend the meeting we print below time of trains at important junction points. Rate of one and one-third fare for the round trip has been established over the different lines. Selling dates, April 30, May 1 and 2, good returning until May 8.

Kansas City Southern Railway.

Leave Texarkana	11:50 A. M.	10:05 P. M.
Leave Ashdown	12:35 P. M.	10:49 P. M.
Leave Howe	6:10 P. M.	3:53 A. M.
Arrive Fort Smith.....	7:55 P. M.	5:40 A. M.

Frisco Lines (Via Springfield, Mo.).

Leave Memphis	8:25 P. M.
Leave Jonesboro	10:00 P. M.
Leave Hoxie	10:50 P. M.
Arrive Fort Smith	4:15 P. M.

Rock Island Lines.

Leave Memphis	9:30 A. M.	12:05 P. M.
Leave Brinkley	11:38 A. M.	2:22 A. M.
Leave Little Rock.....	1:50 P. M.	4:25 A. M.
Leave Booneville	6:30 P. M.	8:50 A. M.

Arrive Fort Smith	9:30 P. M.	11:30 A. M.
Leave Fordyce	3:25 P. M.	.....
Arrive Little Rock	6:55 P. M.	.....
Leave Brinkley	5:28 P. M.	.....
Arrive Little Rock	8:00 P. M.	.....
Leave Hot Springs	7:55 A. M.	.....
Arrive Little Rock	10:15 A. M.	.....

Cotton Belt Route.

Leave Paragould	8:10 A. M.	7:40 P. M.
Leave Jonesboro	9:20 A. M.	8:45 P. M.
Arrive Brinkley	12:27 P. M.	12:04 A. M.
Arrive Little Rock	6:20 P. M.	10:30 A. M.

Iron Mountain.

Leave Texarkana	4:15 A. M.	3:50 P. M.
Leave Hope	5:13 P. M.	4:55 P. M.
Leave Camden .....	.....	1:55 P. M.
Leave Hot Springs	6:30 A. M.	5:30 P. M.
Leave Benton	7:42 P. M.	7:22 P. M.
Leave Pine Bluff	4:50 A. M.	5:15 P. M.
Leave Hoxie	4:00 A. M.	4:35 P. M.
Leave Newport	5:00 A. M.	5:30 P. M.
Leave Little Rock	8:30 A. M.	9:00 P. M.
Arrive Fort Smith	3:40 P. M.	3:35 A. M.

Returning—

Leave Fort Smith	11:57 P. M.	12:42 P. M.
Arrive Little Rock	6:55 A. M.	7:45 P. M.

Pullman fare between Little Rock and Fort Smith: Lower berth, \$2.00; upper berth, \$1.60.

Passengers arriving Fort Smith at 3:35 a. m. may remain in sleeper till 7:00 a. m. Returning, may enter sleeper at Fort Smith any time after 9:00 p. m.

AN ACT to provide for the better organization and maintenance of the department in the University of Arkansas to teach and advance medical science, and to accept property for the purpose.

Whereas, The "Arkansas Industrial University Medical Department," a corporation organized and existing in Pulaski County, Arkansas, under the laws of Arkansas providing for the incorporation of benevolent associations, is the owner of the following described real and personal property, to-wit:

A parcel of ground and building thereon at the corner of East Second and Sherman streets, in the city of Little Rock, of the estimated value of \$30,000.00; a parcel of ground and building thereon at No. 611 East Markham street, in the city of Little Rock, of the estimated value of \$6,500.00; cash on hand, \$20,000.00; office fixtures of the estimated value of \$400.00; operating room of the estimated value of \$300.00; dispensary of the estimated value of \$500.00; library of the estimated value of \$1,500.00; chemical laboratory, apparatus, supplies and chemicals of the estimated value of \$1,200.00; anatomical laboratory of the estimated value of \$300.00; pathology, bacteriology and histology laboratory of the estimated value of \$4,703.00, and physical laboratory, equipment and supplies of

the estimated value of \$350.00, all said property of the aggregate value, estimated, of \$65,753.00, in which buildings and with which property a medical college is being conducted under authority of the University of Arkansas, but at the expense of the corporation aforesaid; and

Whereas, Said corporation is willing to convey all said property to the State of Arkansas for the use of the University of Arkansas, in consideration of the State maintaining and conducting a medical college as part of the University of Arkansas,

Be it enacted by the General Assembly of the State of Arkansas:

Be it enacted by the people of the State of Arkansas:

Section 1. That the medical college now being operated in the city of Little Rock, under the authority of the University of Arkansas, but being maintained by and conducted in buildings belonging to the "Arkansas Industrial University Medical Department," a corporation organized and existing in Pulaski County, Arkansas, under the laws of Arkansas providing for the incorporation of benevolent associations, shall be named the Medical Department of the University of Arkansas, and shall hereafter be maintained at the cost of the State of Arkansas, and shall be a department for the instruction of students in medical science, and a part of the University of Arkansas, but may be located in the city of Little Rock.

Sec. 2. The said Medical Department shall be under the management and control of the Board of Trustees of the University of Arkansas as fully and with like effect as the other departments of the said University of Arkansas. Said Board of Trustees shall employ all necessary supervisors, professors and teachers, agents and servants required to carry on such Medical Department, and shall cause said Medical Department to be operated in a first-class manner, and with course of study, methods of instruction and equipments of a standard equal to that required of medical colleges by the American Association of Medical Colleges; and they shall from time to time, as the finances will allow and the necessity of said department require, add courses, fill professorships and add buildings, furniture, libraries, apparatus and other things so as to keep said department up to the standard re-

quired of medical colleges by the American Association of Medical Colleges.

Sec. 3. Said Board of Trustees shall fix a scale of matriculation and tuition fees, in reasonable sums, and shall prescribe terms and conditions for the payment thereof, and students attending said department shall pay the said fees, except the said board may provide honorary free scholarships in furtherance of the best interests of said department. Said fees shall be collected under the direction of the said Board of Trustees, which shall prescribe the method of collecting the same, and when collected they shall be kept as a fund for the said Medical Department, and shall be paid out by the orders of the said Board of Trustees only for the use and benefit of the said Medical Department of the University of Arkansas.

Sec. 4. The expenses and cost of maintenance and operation of said Medical Department of the University of Arkansas shall be borne by the State of Arkansas, and the State General Assembly shall provide for same by appropriations made in like manner as appropriations are made for the maintenance and operation of the University of Arkansas.

Sec. 5. This act shall take effect and be in force from and after the date when the "Arkansas Industrial University Medical Department," a corporation organized and existing in Pulaski County, Arkansas, under the laws of the State of Arkansas providing for the incorporation of benevolent associations, shall deliver and shall convey and transfer, by appropriate instruments in writing, sufficient to pass title, all the real and personal property of said corporation, consisting of the lots and parcels of ground and buildings thereon in the city of Little Rock, wherein the medical college named in section 1 of this act is being run, and all the apparatus, supplies, instruments and equipments used in the conduct of said medical college, to the State of Arkansas, for the use and benefit of the University of Arkansas; and when said property shall be so delivered and conveyed, the conveyance thereof shall be irrevocable and forever binding upon the said vendor, but is accepted by the State of Arkansas with the understanding upon the part of said vendor and the State of Arkansas that the intent and purpose and consideration of said conveyance is that the State of Arkansas shall forever maintain and operate a first-

class medical college as a part of the University of Arkansas, and the faith and credit of the said State is pledged to carry out this agreement on her part; provided, that as to any property of the said corporation, the "Arkansas Industrial University Medical Department," which is held by it by bequest, devise, or gift, or conveyance, made upon any condition binding upon it, the said corporation, the said State of Arkansas shall take and accept any such property from said corporation, and shall hold it upon the same condition as it was held by said corporation.

Sec. 6. That all laws and parts of laws in conflict with the provisions of this act are hereby repealed.

[The above bill passed the Senate April 10, twentysix voting for the bill and three against it.—Editor.]

A LETTER TO A DOCTOR WHO IS ABOUT TO ENTER THE ROAD WHICH LEADS TO QUACKERY.

William J. Robinson, M. D., New York, President of the American Society of Medical Sociology.

Dear Doctor—I do not know you. I have never met you. And still I am going to write to you. I do so as a matter of duty. To the question: Am I my brother's keeper? I have always answered: Yes. And I see a young man starting on a wrong path, I try to warn him, to save him, if I can.

You have entered upon the wrong path, and I am sorry for you. And I urge you to turn back while there is yet time. I advise you to turn from the path of quackery, upon which you are, consciously or unconsciously, entering. I advise you to do so, not only for moral and ethical reasons, but because you yourself will in the end be the greatest sufferer. The man who never graduated from a medical college, the man who has never associated with the medical profession, the man who is an out-and-out quack, has no such scruples as you will be tortured by; he cares only for the money, and as long as he makes that he is satisfied. But you will suffer. When you see your professional colleagues turning away from you, when you see yourself avoided by even your personal medical friends, when you see yourself shut out from all medical societies, you will suffer. You may put up a bold front, you may try

to make others and yourself believe that you do not care, that you do not give a rap for the approbation of your medical brethren, that their ostracism is nothing to you. But deep down in your soul you will feel that it is not so; you will feel that you are deceiving yourself as well as others; you will pass many sleepless nights, and your pillow will hear some heart-breaking confessions.

How do I know it? I know it because many of the better class of quacks made those confessions to me. One man, who has made a pile of money and who, in spite of his undoubtedly quackish methods, has many excellent qualities and humanitarian inclinations, confessed to me that he would willingly exchange the plaudits of fifty thousand laymen for the approbation of one reputable medical man.

Or course, I know what you will say. You will say that you are knocking the medical profession, and going to the laity, because the medical profession is narrow, bigoted, commercialized, and so forth. I am willing to believe that that is your real reason for leaving the profession, and not the fact that in the ordinary ethical practice of your profession you were unable to make a satisfactory living. But, still I would ask you to ask yourself this question: Would I have left the path of regular ethical medicine if in following it I had been making five or ten thousand dollars a year? I fear your answer would be in the negative.

But, assuming that it is so, that the profession is narrow, commercialized, etc., is it not your duty to stay on the inside and fight this narrowness and commercialism, and other abuses which have crept into the profession? Don't tell me that you cannot do it and still remain within the profession. For it is not so. I myself am the proof of it. Nobody has on occasions criticised the shortcomings of our profession more severely than I have. The Critic and Guide was organized for the distinct purpose of criticising the abuses and faults of the medical and pharmaceutical professions. But while some narrow bigots did not like my criticising, this did not put me out of the pale of the profession. I stayed right in, fought as hard as I knew how, and with the result that it was I, and not the bigots, that carried off the victory. It is not I that became narrower, it is the bigots who became broader—or retired into solitude.

Don't you see that by leaving the profession—for the path you are entering upon means essentially this—you render yourself entirely impotent for any good? Even the laity will cease to listen to you as soon as they find out that by the regular profession you are considered a quack. And what's more, when they want a doctor, they will consult a regular physician. Finding yourself forsaken by the profession and by the laity, you may want to turn back to the former, but you may find the portals shut. For our profession is a jealous profession and is not lenient toward transgressors.

The medical profession, that is, a part of it, for to accuse the entire profession would be wrong, may be narrow and commercialized. No profession can help being affected by the tendencies of our times, by the influence of our social and economic conditions. But a profession that counts among its members a Hippocrates, a Galen, a Harvey, a Servetus, a Vesalius, a Pare, a Maimonides, a Louis, a Trousseau, a Fournier, a Graefe, a Virchow, a Muller a von Helmholtz, a Gerhardt, a Billroth, an Ehrlich, an Osler and a Jacobi, is a pretty good profession to belong to.

Don't you think so?

Or do you perhaps think that the company of old "Dr." Grindle and "Dr." Gray and "Dr." Tilden and "Prof." Samuels and Mr. McFadden is preferable? If so, I have nothing to say.

Chacun a son gout.

Still fraternally yours,

WILLIAM J. ROBINSON.

LOS ANGELES, CAL., April 10, 1911.

To the Editor:

Please state in the next issue of the Journal that I would be pleased to have my friends of the medical profession in Arkansas, particularly the members of the State Medical Society, bear in mind that I am located in Los Angeles when they come out here to the meeting of the American Medical Association next June. I would be delighted to have them call upon me, so that I might have the pleasure of greeting them, and, if possible, be of any assistance. My address is 206 Consolidated Building, Sixth and Hill streets.

Great preparations are being made for the coming meeting, and I am sure that, from

present indications, it will be very largely attended.

Sincerely yours,

C. C. STEPHENSON.

THE PRESCRIBED REMEDY FOR THE PREVENTION OF INFANTILE MORTALITY BY THE CENSUS BUREAU.

The remedy proposed for this condition of affairs should provide, first, for the enactment of adequate laws for the complete registration of births and deaths in all states that do not at present possess them, and, second, for the thorough enforcement of the present laws and of new laws when enacted. It is stated that the principles upon which successful registration law must be constructed in this country have been thoroughly settled in the light of practical experience, and a model law in conformity with such principles has been drawn up and endorsed by medical and public health associations. This law has been put in operation in several states and is giving most excellent and satisfactory results where its provisions are really enforced, but in the great majority of states the compulsory enforcement of the provisions of the laws for the registration of births, by means of the penalties provided for noncompliance, is practically a dead letter and is mainly responsible for the worthless character of the United States statistics of births and the utter absence of any reliable figures for infantile mortality. In fact, no reliable data of infantile mortality can be compiled until there is an accurate registration of births.

It is estimated that in the United States the deaths of babies less than a year old constitute one-fifth of the annual total mortality, and of these deaths at least 125,000 need not have occurred if modern hygiene, as it is known today, were practiced universally.

The Bureau of the Census has been continually laboring since its permanent organization in 1902 for better vital statistics, which means as a very important part thereof registration of infant mortality. It is urged that the attack upon infant mortality begins with the diarrheal and intestinal diseases of infancy. The prevention of these diseases, which are preeminently "filth diseases," will

wipe out one-fourth of the total number of deaths of babies under two years of age.

The accurate collection, tabulation and analysis of records of births, deaths, stillbirths, marriages, divorces, and sickness may be said to constitute the bookkeeping of humanity. It is fundamental to the practical application of hygiene to secure higher efficiency, longer duration of life and fuller measure of happiness.

Editor—Our Board of Health law as amended by the House covers all of the above requirements. It is to be hoped that every member of the Arkansas Medical Society will write his representative to favor this bill.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LI- CENSING BOARDS.

The twenty-first annual convention of the National Confederation of State Medical Examining and Licensing Boards was called to order at the Congress hotel, Chicago, Ill., by the president, Dr. Joseph C. Guernsey. Dr. George W. Webster of Chicago, chairman of the Committee on Arrangements, delivered a cordial address of welcome, which was ably responded to by Dr. Lee H. Smith of Buffalo.

The president delivered the annual address, choosing for his subject "Medical Licensure." The report of the secretary-treasurer, Dr. George H. Matson, was read, audited and approved. The report of the Committee on Clinical Instruction by Dr. Henry Beates, chairman, and that on *Materia Medica* by Dr. Murray Galt Motter, were read, referred for publication and the committees continued. The report of the Committee on Mr. Flexner's paper published in the proceedings for 1910 was read by Dr. N. P. Colwell. After an extended discussion the report was adopted as read and the committee discharged.

The Symposium on "State Control of Medical Colleges" was discussed from the viewpoints of state, law, the medical colleges, state medical examining and licensing boards and the medical profession. From the viewpoint of the state Charles William Dabney, Ph. D., LL. D., president of the University of Cincinnati, read a paper in which he contended that the state could control and conduct medical colleges more efficiently than corporations and private individuals. From the same viewpoint Mr. Abraham Flexner of

the Carnegie Foundation for the Advancement of Teaching, New York city, read a paper on "The Duty of the State in the Control of Medical Colleges," advocating this system. From the viewpoint of the law Hon. Charles Alling, Jr., Chicago, read a paper giving his opinion that the courts would uphold the system. Dr. Arthur Dean Bevan, Chicago, discussed the question from the viewpoint of the medical colleges, setting forth the advantages of state control, (a) as regards uniformity of requirements and methods, (b) as giving adequate financial support. From the same viewpoint F. C. Waite, A. M., Ph. D., Cleveland, forcefully and hurriedly pointed out the evils inherent under the present system and expressed the opinion that the spirit of competition and commercialism would be eradicated if the state controlled the medical colleges. Dr. Frank Winders, Columbus, O., read a paper in which he contended that with aid rendered by the state, medical education would become more efficient by having all teachers receive a compensation commensurate with their labor, and by having a larger number devote their entire time to teaching than now obtains. From the viewpoint of the State Boards of Medical Examiners Dr. Edward Cranch, Erie, Pa., declared that the medical boards could more efficiently enforce the laws regulating the practice of medicine and the requirements of the board if medical education were under state control. From the same viewpoint Dr. James A. Duncan, Toledo, presented a paper on the subject, "If Medical Colleges Were Under State Control. Would the State Medical Boards Be Enabled to Determine More Fully the Standing?" which question he answered in the affirmative. For the medical profession Dr. Royal S. Copeland, New York city, said that if medical colleges were under state control the medical profession would be more uniformly and efficiently educated and trained than by the present system. Dr. Horace G. Norton, Trenton, N. J., presented a paper in which he held that since the medical colleges are the source of the medical practitioner upon which devolves the care and the welfare of the people, they should be under state control. Special papers on the following subjects were presented. "The Necessity of Establishing a Rational Curriculum for the Medical Degree," by Dr. Henry Beates, Philadelphia, "Some Thoughts on the Supervision of Medical Colleges and the Conduct-

ing of State Examinations," by Dr. James A. Egan, Springfield, Ill.

The attendance was the greatest in the history of the Confederation, and the enthusiasm which began at the opening continued throughout the session. All papers were earnestly and intelligently discussed, the interest becoming so intense that it was necessary to limit the period of the discussions.

The Oregon State Board of Examiners, the Louisiana State Board of Medical Examiners (regular), Dr. H. S. Copeland, New York city, Dr. James H. McDonald, Pittsburg, Dr. E. F. Lawrence, Columbus, and Dr. C. M. Hazen, Bon Air, Va., were admitted to membership in the Confederation.

The following officers were elected: President, Dr. Charles A. Tuttle, New Haven, Conn.; First Vice President, Dr. James A. Egan, Springfield, Ill.; Second Vice President, Dr. A. B. Brown, New Orleans, La.; Secretary-Treasurer, Dr. George H. Matson, Columbus, O.; Executive Council, Dr. N. R. Coleman, Columbus, O.; Dr. James A. Duncan, Toledo, O.; Dr. Charles H. Cook, Natick, Mass.; Dr. Joseph G. Guernsey, Philadelphia, Pa.; Dr. W. Scott Nay, Underhill, Vt.

THE TUBERCULOSIS SANATORIUM.

After a meeting with the Tuberculosis Sanatorium Board the joint committee of the legislature decided to ask for the following items for the institution:

For an infirmary	\$15,000.00
For additional quarters for patients	6,000.00
For additional water and sewer systems	2,000.00
For fencing and beautifying grounds	1,500.00
For building and maintaining roads	500.00
Total for construction.....	\$25,000.00
For maintenance for two years.....	60,000.00

Aggregate\$85,000.00

There are at present accommodations for seventy patients. The infirmary and additional quarters would increase the capacity to 100 patients.

The cost of maintenance was estimated at \$600 per annum per patient, equal to \$60,000 per annum for 100 patients. Agreement was reached that where a patient should be certified by a county judge as being unable to

pay for maintenance in the sanatorium, one-half of the cost of his maintenance should be paid by the county and the other half by the state. The weekly charge on a county for each patient was fixed tentatively at \$5. This would not be sufficient to meet half the cost of maintenance, but the \$60,000 asked from the state, together with payments from private patients, would be relied on to make up the deficiency. Of course if the state is to continue to bear all the expense of maintenance, instead of one-half the expense incurred for beneficiary patients being put on the counties, more state money would be needed for maintenance.

The legislature should allow the board some latitude in spending the money. If the well failed the board would surely want authority to dig another, or if some other emergency should appear the board should surely have authority to meet it.

You can see by examination of the items asked for in addition to \$60,000 for maintenance for two years that with the exception of \$2,000 the whole amount would be spent for building an infirmary and additional quarters for patients and for additional water and sewer systems. No words should be necessary to justify the spending of money for these purposes. At present as many as two and three patients are put in one room for lack of sufficient quarters.

This sanatorium costs money, but its good work is not to be measured in dollars and cents.—Arkansas Gazette.

PRELIMINARY PROGRAM

AMERICAN PROCTOLOGIC SOCIETY

Thirteenth Annual Meeting, Los Angeles, Cal.
June 26 and 27, 1911.

Headquarters and place of meeting, Hotel Alexandria, corner Fifth and Spring.

The profession is cordially invited to attend all meetings.

Commencing Monday, June 26, 1911.

Executive Council meets at 11 a. m.

First regular session at 2 p. m.

Annual address of the president, subject, "Proctologic Recommendations," George J. Cook, Indianapolis, Ind.

Papers.

- 1.—"A Review of Proctologic Literature for 1910"—Samuel T. Earle, Baltimore, Md.
- 2.—"How Can Diverticula of the Sigmoid Produce Abscess in the Retro-peritoneal Space?"—A. Teirlinck, Gand, Belgium.

- 3.—"Some Observations Upon Surgical Anatomy and Mechanism of the Colon"—Granville S. Hanes, Louisville, Ky.
- 4.—"Treatment of Rectal Diseases by Ambulant Methods"—Wm. L. Dickinson, Saginaw, Mich.
- 5.—"Have We an Ideal Operation for Internal Hemorrhoids?"—A. B. Cooke, Nashville, Tenn.
- 6.—"The Clamp and Cautery Operation for Hemorrhoids"—Chas. S. Gilman, Boston, Mass.
- 7.—Symposium on Constipation—
 - (a) "Etiology"—Horace Heath, Denver, Col.
 - (b) "Physiology"—S. T. Earle, Baltimore, Md.
 - (c) "Bacteriology and Urinary Findings"—John L. Jelks, Memphis, Tenn.
 - (d) "Pathology and Diagnosis"—Wm. M. Beach, Pittsburg, Pa.
 - (e) "Sequela, Including Autointoxication"—A. J. Zobel, San Francisco, Cal.
 - (f) "Psychotherapy, Mechanical, Electrical Treatment and Massage"—Jas. A. MacMillan, Detroit, Mich.
 - (g) "Nonsurgical Treatment"—Dwight H. Murray, Syracuse, N. Y.
 - (h) "Surgical Treatment"—Louis J. Hirschman, Detroit, Mich.
- 8.—"Universal Abuse of Purgatives in the Treatment of Constipation"—Leon Straus, St. Louis, Mo.
- 9.—"Cancer of the Rectum"—J. R. Pennington, Chicago, Ill.
- 10.—"Pigmentation of the Rectum and Sigmoid, with Report of a Case"—Jerome M. Lynch, New York City, N. Y.
- 11.—"Observations Upon Relationship of Tuberculosis to Peri-rectal Suppurations"—Collier F. Martin, Philadelphia, Pa.
- 12.—"Reflex Disturbances Referable to the Rectum"—T. Chittenden Hill, Boston, Mass.
- 13.—(a) "Malformation of Rectum and Anus, with Report of a Case."
- (b) "Pruritus Ani, with Report of a Case"—Donly C. Hawley, Burlington, Vt.
- 14.—"Radiograph in Entero-Proctology"—F. C. Yeomans, New York City, N. Y.
- 15.—"Some Practical Considerations of the Etiology of Diarrhea and Its Treatment"—Alois B. Graham, Indianapolis, Ind.
- 16.—"Fads and Fallacies of a Valvotomist"—Thomas Charles Martin, Washington, D. C.
- 17.—"Syphilitic Afections of the Rectum and Anus"—Lewis H. Adler, Jr., Philadelphia, Pa.

NOTICE.

On page 261 of the March Journal, the article "The Profession of Medicine and a Business Career" should have been credited to The Lancet-Clinic.

NOTICE.

Fort Smith, April 19, 1911.

To the Editor:

If you get this in time, please extend in The Journal a special invitation to the ladies to come to our meeting. There will be a

street car ride for them Wednesday morning at 10:00 o'clock; an automobile ride and luncheon at the Country Club Thursday at 3:30 p. m., besides a general reception, with dancing, Wednesday night.

Yours truly,

H. MOULTON,

Of Special Committee on Entertainment.

NOTICE.

Members of this society and others who may have had personal experience in the operative treatment of aneurism by the intrasaccular method of suture (Endoaneurismorrhaphy, also known as the "Matas operation"), will confer a favor by notifying the secretary, or by communicating their experience directly to Dr. R. Matas, 2255 St. Charles Avenue, New Orleans, La.

News Items.

The United States Civil Service Commission announces an examination on June 7, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of medical interne, Government Hospital for the Insane, Washington, D. C., at \$600.00 per annum, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer or promotion.

The positions are tenable for one year, and pay \$50.00 a month and maintenance. At the end of six months, however, during which time a postgraduate course in mental and neurological diagnosis methods, etc., is given, an examination is held, and promotions to the next grade, assistant physician, at \$75.00 a month and maintenance, are made. Beyond this, there is regular advancement for men whose services are satisfactory. The Government Hospital for the Insane has over 2,900 patients and about 750 employees to care for. In addition to the general medical practice offered, the scientific opportunities are excellent and the clinical opportunities in neurology and psychiatry are unsurpassed.

As considerable difficulty has been experienced in filling vacancies in the position of medical interne in the Hospital Service during the past several years, owing to the limited number of eligibles available, qualified persons

are urged to enter this examination.

Applicants must not have been graduated more than two years prior to the date of the examination, unless they have been continuously engaged in hospital, laboratory or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

The forty-second annual meeting of the American Medical Editors' Association will be held at the Alexandria Hotel, Los Angeles, Cal., June 26 and 27, under the presidency of Dr. J. MacDonald, Jr.

County Societies.

DREW COUNTY.—The officers-elect of the Drew County Medical Society are: Dr. M. Y. Pope, president; Dr. M. B. Corrigan, secretary.

M. B. CORRIGAN, *Secretary*.

LONOKE COUNTY.—The Lonoke County Medical Society convened in regular session in Dr. S. A. Southall's office, Monday, April 3, 1911, with the following officers and members present: S. A. Southall, president; F. A. Corn, secretary, Lonoke; C. C. Abbott, Petrus; S. S. Beaty, England; J. C. Chinault, A. Murchison, O. D. Ward, England; T. J. Tankersly, Tomberlin; J. F. Brewer, Kerr; A. L. Bowers, Keo; J. M. Childers, Watten-saw; H. Thibault, Wm. McRae, Scott; J. D. Nevins, Tucker; Luther White, Jebb; W. S. Turner, Blakemore; T. M. Fly, Wompole; E. A. Callahan, Carlisle; J. R. Cuning, T. E. Benton, N. H. Wireback, Lonoke.

The meeting was called to order by President Southall, and after the general routine of business was completed the following officers were elected for the ensuing year: S. S. Beaty, of England, was elected president; T. E. Benton, of Lonoke, vice president; O. D. Ward, of England, secretary; S. A. Southall, assistant secretary.

J. R. Cuning was elected as delegate and H. Thibault alternate to the State Medical Society at Fort Smith in May.

The meeting then closed until the first Monday in May, to convene at England on that date.

F. A. CORN, *Secretary*.

CONWAY COUNTY.—Our election of officers on April 11, for the Conway Medical Society, was as follows: Dr. Frank Gordon, presi-

dent; Dr. J. F. Holbrook, vice president; Dr. G. W. Ringgold, secretary.

G. W. RINGGOLD, *Secretary*.

CRAWFORD COUNTY.—The Crawford County Medical Society on April 6 elected the following officers: A. M. Bourland, Van Buren, president; J. E. Blakemore, Van Buren, vice president; E. C. Wittwer, Van Buren, secretary; W. L. Parchman, Van Buren, treasurer.

J. E. BLAKEMORE, *Secretary*.

WASHINGTON COUNTY.—The Washington County Medical Society met in quarterly session at the court house in Fayetteville, April 4, 1911. The weather was unpropitious, but in spite of the downpour of rain the following "old reliables" were there. Many others wanted to attend, but the rain prevented: Drs. J. S. Cannon, West Fork; W. B. Welch, Fayetteville; D. Christian, Springdale; E. E. Wilson, Rhea; E. F. Ellis, Fayetteville; H. D. Wood, Fayetteville; J. W. Fergus, Elm Springs; W. N. Yates, Fayetteville; A. S. Gregg, Fayetteville; John Young, Springdale; Nina V. Hardin, Fayetteville; F. B. Young, Springdale.

The president, Dr. P. L. Hathcock, of Lincoln, and the vice president, Dr. A. J. Harrison, of Spring Valley, being absent, Dr. D. Christian was made president pro tem. Following is the program for the afternoon:

"Diagnosis of Typhoid Fever," Dr. H. D. Wood; "Treatment of Typhoid Fever," Dr. D. C. Summers; "Complications and Sequelæ," Dr. F. B. Young.

Most of the members have paid 1911 dues, and the rest will do so in the next few days, when the secretary will remit to the State secretary and send annual report. All want to attend the State Medical meeting. Dr. T. W. Blackburn is delegate; Dr. E. F. Ellis, alternate delegate.

NINA V. HARDIN, *Secretary*.

Book Reviews.

Medical Sociology. By J. P. Warbasse, M. D., Brooklyn. Price, \$2.00. D. Appleton & Co., Publishers, New York.

The author says this book is inspired by the belief that the most important knowledge for the individual is that which forms his physical efficiency and happiness, and he hopes that it may help to break down the barriers between the physician and the public. It is made up of two parts, the first

part dealing with questions of great interest to the layman, and the second part should be of special interest to the medical reader.

This little work should be read by every man and woman in the United States.

Modern Treatment; the Management of Diseases with Medicinal and Non-Medicinal Remedies. By eminent American and English authorities. Edited by Hobart Amory Hare, M. D., professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; physician to the Jefferson Hospital; author of "A Text-book of Practical Therapeutics," "A Text-book of the Practice of Medicine," etc. In two very handsome octavo volumes, comprising 1,800 pages, with numerous engravings and full-page plates. Price per volume, in cloth, \$6.00 net; half morocco, \$7.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The medical practitioner is at all times deeply interested in the treatment of diseases, whether by medicine or by other remedial measures which do not depend upon drugs for their effects, as they are being constantly called upon to meet new conditions.

The laboratory has elevated the practice of medicine to a higher plain than ever before; more special works are now being written on treatment alone. Dr. Hare is especially fitted for this work and he has selected the best men possible for their respective subjects, and all methods of treating diseases have been covered.

The first volume being divided into three parts:

Part First. General consideration of modern pharmacology and its bearing on practical therapeutics, prescription writing, the best means of combining drugs, as well as watching for and avoiding their untoward effects.

Part second is devoted to the treatment of diseases by nonmedicinal measures—climate, exercise, mineral waters, baths, electricity, X-ray, radio-active substances, rest diet, the hygienic management of epidemics, disinfection, and the more modern department of

serumtherapy, vaccine and opsonic therapy, glandular therapy and the use of tuberculin with special reference to their practical application.

Part third is devoted to the treatment of all the infectious diseases.

This should be a very popular work with both the physician and surgeon, and we are looking forward with much interest to the early arrival of the second volume.

Golden Rules of Diagnosis and Treatment of Diseases. By Henry A. Cables, B. S. M. D., professor of Medicine and Clinical Medicine, College of Physicians and Surgeons, St. Louis; 227 pages. Price, \$2.50. C. V. Mosby Company, Publishers, St. Louis, Mo., 1911.

This small work will meet the urgent need of the busy physician as a ready reference in diagnosis and treatment. The diagnostic points are brought out in a unique way, and the therapeutic technic shows a thorough knowledge of the author, and we bespeak for it a popular place among the Golden Rule series.

Diseases of Women. By H. S. Crossen, M. D., professor of Clinical Gynecology, Medical Department, Washington University. New second edition revised and enlarged; 991 pages; 774 illustrations. Price, \$6.00. Mosby Medical Book and Publishing Company, Publishers, St. Louis, Mo., 1910.

The first edition of this book proved to be one of the most popular ever written on the subject, as it was devoted almost exclusively to the diagnosis and treatment. The new second edition has been enlarged to the extent of 200 pages; many new illustrations have been added and the index greatly amplified. Special attention has been given pelvic inflammation and tubal pregnancy, two very important subjects. Medico-legal subject has been considered in a detailed and practical way. The work to us is one of the most practical and complete on gynecology that has been brought to our notice, and should be in the hands of every practitioner and surgeon.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1910-1911

Next Annual Session, Los Angeles, Cal., June, 1911.

President—William H. Welch, Baltimore.
 President-Elect—John B. Murphy, Chicago.
 First Vice President—Edward E. Montgomery, Philadelphia.
 Second Vice President—Robert C. Coffey, Portland, Ore.
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 Council on Medical Education—J. A. Witherspoon, Nashville, Tenn., 1911; James W. Holland, Philadelphia, 1912; Victor C. Vaughan, Ann Arbor, Mich., 1913; Arthur D. Bevan, Chicago, chairman, 1914; George Dock, St. Louis, 1915; N. P. Colwell, 535 Dearborn Ave., Chicago, secretary.
 Council on Pharmacy and Chemistry—Otto Folin, Boston, 1911; Torald Sollmann, Cleveland, 1911; M. I. Wilbert, Washington, D. C., 1912; Reid Hunt, Washington, D. C., 1912; J. H. Long, Chicago, 1912; Julius Stieglitz, Chicago, 1912; J. A. Capps, Chicago, 1913; David L. Edsall, Philadelphia, 1913; R. A. Hatcher, New York City, 1913; C. S. N. Hallberg, Chicago, 1914; L. F. Kebler, Washington, D. C., 1914; John Howland, New York City, 1914; F. G. Novy, Ann Arbor, Mich., 1915; George H. Simmons, Chicago, chairman, 1915; H. W. Wiley, Washington, D. C., 1915; W. A. Puckner, 535 Dearborn Ave., Chicago, secretary.
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Next Annual Session, Fort Smith, May, 1911.

President—Robert C. Dorr, Batesville.
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COMMITTEES 1910-1911.

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COUNCILOR DISTRICTS AND COUNCILORS.

1910-1911.

First Councilor District—Clay, Crittenden, Craighead, Greene, Lawrence, Mississippi, Poinsett and Randolph counties. Councilor, H. R. McCarroll, Walnut Ridge. Term of office expires 1911.
 Second Councilor District—Clebourn, Fulton, Independence, Izard, Jackson, Sharp and White counties. Councilor, J. H. Kennerly, Batesville. Term of office expires 1912.
 Third Councilor District—Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff counties. Councilor, S. A. Southall, Lonoke. Term of office expires 1911.
 Fourth Councilor District—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Jefferson and Lincoln counties. Councilor, A. D. Knott, Wilmot. Term of office expires 1912.
 Fifth Councilor District—Calhoun, Columbia, Dallas, Lafayette, Ouachita and Union counties. Councilor, H. H. Neihuss, Wesson. Term of office expires 1911.
 Sixth Councilor District—Hempstead, Howard, Little River, Miller, Nevada, Pike, Polk and Sevier counties. Councilor, L. J. Kosminsky, Texarkana. Term of office expires 1912.
 Seventh Councilor District—Clark, Garland, Hot Spring, Montgomery, Saline, Scott and Grant counties. Councilor, J. C. Wallis, Arkadelphia. Term of office expires 1911.
 Eighth Councilor District—Conway, Johnson, Faulkner, Perry, Pulaski, Yell and Pope counties. Councilor, A. H. McKenzie, Dardanelle. Term of office expires 1912.
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 Tenth Councilor District—Benton, Crawford, Franklin, Logan, Sebastian, Madison and Washington counties. Councilor, M. S. Dibrell, Van Buren. Term of office expires 1912.

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Original Articles.

BRAIN SYPHILIS.

James H. Chesnutt, M. D., Hot Springs.

The account of brain syphilis that follows is taken from H. Oppenheim's "Lehrbuch der Neuenkrankheiten," in which any one interested may find a most interesting description of the subject in all of its aspects. The subject is vast, and hence it will be impossible to present it in its entirety; yet my purpose is to set before you its essential features, and to report three cases, one of which is of extreme interest in that it gives a clear picture of general brain syphilis, of arterial involvement and of a localized tumor, which gave rise to symptoms of Jacksonian epilepsy.

Brain syphilis is a disease of the meninges, and the vascular system. It appears either as a flat spreading inflammatory neoplasm or as a circumscribed solitary or multiple neoplasm tumors, or as both. The gummata form roundish uneven nodular growths of varying size, and present on cross section a grayish red periphery, with a yellow center, due to a focus of caseation. They may be invaded by a thrice fibrous tissue, which may envelop their circumference as a firm membrane or capsule.

The most common form of brain syphilis is a basilar gummatous meningitis, which proceeds from the subarachnoid tissue of the chiasma, from the space between the crura and spreads thence in a diffuse manner over the base of the brain. The neoplasm has a fatty or gelatinous appearance, and forms a thin connective tissue layer, which binds it firmly to the base of the brain, and presses into the sulci and depressions, and thus covers the origin of the cranial nerves as by a veil. The optic nerve and those to the eye muscles are not only covered, but

are swollen, and often show macroscopically the inflammatory process. The arteries, too, are involved, their walls are thickened, their lumina narrowed, and they are adherent to the meninges.

The process may be circumscribed on a single cranial nerve, in the region of origin of the third nerve, or around the chiasma, the remaining portions of the brain being macroscopically intact. The convexity, however, may be involved with disturbance of function or the process may be deep in the brain tissue.

Occurrence: Oppenheim says that the majority of cases occur at the end of the first or second year after infection, but cranial symptoms may appear in the beginning of secondary symptoms. Osler states that "Of late years it has been recognized that the nervous lesions may occur very early in the disease, even before the induration of the primary sore has gone. In a majority of the cases brain symptoms come on within three or four years after infection." It will be noted in the cases to be reported that they occurred late. The causes that predispose to the development of cranial syphilis are trauma, violent strain, mental excitement and alcohol.

The symptoms of the basilar form, in spite of their multiplicity, are fairly characteristic. Headache is the earliest and most constant sign. This may be most intense, especially at night. Dizziness, nausea and attacks of vomiting are quite common. To these may be added attacks of unconsciousness or general convulsions.

The mind is affected, as a rule. Often there appears gradual dementia, forgetfulness, complete loss of memory, or apathy, from which the patient cannot be aroused. These symptoms are not the same as the permanent, steadily-increasing dullness seen in many cases of intracranial tumors, but the

disturbances of consciousness are intercurrent. The stupor may last hours or days. Often it is not distinguishable upon superficial observation from sleep or intoxication. On the other hand, attacks of confusion, excitement or violent insanity may alternate with the comatose condition. This alternation of delirium with coma is almost characteristic of cranial lues.

Simultaneous with the development of cerebral symptoms, or preceding them, occur the ocular palsies. The oculomotor is most frequently involved, often alone, as a whole, or branches of it, or on both sides. The fourth and the sixth nerves are affected more rarely, the involvement of the latter usually on one side. The common finding is a paralysis or paresis of the oculomotor with the others following in sequence.

Ptosis is common; the pupils are often affected, and may be immobile. Double vision occurs frequently. There may be single or double optic neuritis, typical choked disc or atrophy of neuritic origin. The disturbance of vision, present at times when the ophthalmoscopic findings are negative, are very numerous. The various forms of hemialopia, blindness in one or both eyes, narrowing of the visual fields, etc., are found when search is made for them.

The fact of necessity follows, from the pathology of the condition, that the other cranial nerves may be involved. Hence, the olfactory, the fifth with neuralgic pains, the seventh with peripheral form of paralysis, the eighth, etc., may be affected. The pons and medulla may share in the disease, and naturally the extent of their involvement has much to do with the prognosis.

Tumors seldom produce the above train of symptoms, but basilar meningite of tubercular origin may stimulate it. The peculiar course—that is, the variability, the disappearance and reappearance of symptoms—are the characteristic points about cranial syphilis. This variability is marked with reference to the eye and ocular muscles; blindness may last a few hours or days; the paralysis of the superior rectus may disappear in a short time, or the facial paralysis may change from one side to the other with great suddenness. The changes are due to the quickly forming granulation tissue proliferating and then dying, causing thereby alterations of pressure exerted upon the cranial nerves.

The condition thus far described is that of meningitis, neuritis, or pnenneuritis of the cranial nerves. The vascular involvement deserves special mention. Hemiplegia may occur in any stage, but it usually appears in the stages previously described. Premonitory symptoms are seldom lacking. The circulation is disturbed, then the arteritis produces narrowing of the lumen, and this is followed by softening of the area deprived of its circulation. Mild apoplectic attacks often precede the development of the hemiplegia. Paraesthesia or paresis of the muscles may precede it. The mode of onset of the paralysis is suggestive; it develops slowly, involving a leg, and, in the course of a day or a few days, the face and an arm. This hemiplegia is often crossed, inasmuch as the arteries affected are on the side in which the basilar process is most marked. The paralysis may be of both extremities, and often hemianarsthesia, aphasia or bulbar symptoms supervene.

Many other features may occur. The tumors, when localized, give rise to localizing symptoms, as do other cranial tumors. Case No. 1 is an example of a tumor, giving rise to symptoms of Jacksonian epilepsy. The involvement of the convexity gives rise to psychological disturbances and symptoms of dementia paralytica.

The symptoms may be one or all of the above. The process may be acute, subacute or chronic; it is usually insidious in its onset; headaches may occur for months preceding the hemiplegia; there may be repeated exacerbations and remissions, and in the intervals a fair degree of health.

The prognosis is not unfavorable. Response to treatment is to be expected so long as distinctly specific changes are present, and narrowing of the vessels and atrophy of the brain tissue is lacking. An optic neuritis may clear up; optic atrophy may show no further progress. When, however, one of the cranial nerves is paralyzed for a year, there is little hope of recovery from paralysis. When the pons and medulla are affected, the danger to life is greatest.

The treatment does not come within the scope of this paper, hence I shall pass to the report of the following cases:

Case No. 1.—Male; age, fifty-two, with definite history of lues at the age of thirty-four. The facts given deal only with the luetic history, and many of these were obtained after the patient had returned to the normal state.

Following the onset of the secondary symptoms, the patient had anti-syphilitic treatment for about a year, and in an intermittent manner for the next two or three years. His health remained good for the next ten or twelve years, during which he had no treatment. His friends noticed in 1905 that he had become forgetful and was inattentive to his business. Formerly he had been successful, but now his ventures usually failed. He noticed, too, that his muscle on the right side of the body and left side of the face would twitch, and, following this, he had an apoplectic stroke, was unconscious for some days, and upon recovery had a right-sided paralysis of his tongue, which has persisted.

The history for the next five years was one of gradually failing mental power, characterized by loss of memory and lack of judgment, but with intervals in which his health and mental condition were fair. To illustrate his loss of judgment and business acumen, he sold his interest in a ranch, for which he had paid \$5,000.00, and on which he had spent four years in improvement, for \$1,000.00, and this despite the pleas of his friends. During this period he had, in the way of treatment, thirty to one hundred grains of potassium iodide three times daily, and mercury "for a very short time." Here I will digress for a moment to say that when it is universally recognized that mercury is indicated in all stages of syphilis, the medical profession will have made a great advance.

The patient was finally advised to come to Hot Springs, and, without telling his friends, started a few days later. He was found wandering in an aimless manner in Malvern, and was detained by the authorities there until his identity could be ascertained. In the meantime, Dr. R. Y. Phillips was called in and made a diagnosis of brain syphilis, and sent him over to Hot Springs.

Examination.—Patient is dull and stupid in appearance. He sits in the chair with head downward, and in answer to repeated questioning gives his name, his home city and occupation, and the name of a friend. Further questioning brings random replies. Pupils unequal and small, but react both to light and accommodation. The facial muscles on both sides occasionally twitch, but not at the same time. Tongue is thick and partially paralyzed on the right side, articulation being difficult. All words are blurred and in random remarks the phrase or sen-

tence is often meaningless. Hearing is poor. It is necessary to shout to make him understand. His answer to many questions was, "It is the third stage of syphilis."

Eye Muscles.—Ptosis on the left side; movements of the eye muscles on both sides are poor, uneven and irregular.

Heart and Lungs.—Negative.

Extremities.—Reflexes are everywhere exaggerated. The muscles of the left side are decidedly weaker than the right side. The left hand is slightly drawn up, and there are twitchings of the muscles of the left arm.

Sensation.—Normal.

Pulse.—Slow; 56 to 70 per minute. Arteries are moderately sclerosed.

Glands.—Slight, if any, enlargement.

The patient was placed on mercurial inunctions of potassium iodide and bromides. The response to treatment was marked for about ten days; then he began to have epileptic attacks of a Jacksonian type, interspersed with general convulsions. These attacks varied in number from two or three to thirty or forty in twenty-four hours, and, after having had a certain number, three or four, he would have general convulsions, during which he bit his tongue, and in which there was unconsciousness, followed on some occasions by stupor.

The Jacksonian epilepsy began in the left hand and passed thence up the arm. This type seemed the predominating one, but often there was a twitching of the facial muscles. Loss of consciousness accompanied nearly all attacks. This, however, was transient. On one occasion an attack came on while he was eating, in which he dropped his fork, became unconscious for perhaps ten seconds, and then resumed his eating. These irritative symptoms became more severe and frequent; attacks of vomiting began to occur, and the pulse rate dropped to thirty-eight to forty-five, with high blood pressure.

The prognosis looked grave, and large doses of the salicylate of mercury were given. I gave five grains in five days, three grains being given at one injection. The effect was most severe, giving rise to a diarrhea of great intensity, which was checked with difficulty, as the nurse failed to give the mixture left for that purpose. The response to this heroic treatment was remarkable.

The attacks began to decrease, until on the seventh day they had dropped to two or three daily. They disappeared entirely within ten

days. (Six months afterward there has been no return.) The pulse began to increase in frequency, the irritative symptoms to disappear, and the hearing to return. The last returned completely, so that the patient was able to understand an ordinary conversational tone with ease. The power of speech, enunciation, the proper use of words—all these began to improve, and with them the paralysis of the tongue began to subside. The most remarkable part was the return of his mentality. He began to talk of his past life, illness, business, etc., until he seemed to be normal in all respects. There remained, however, no recollection of the trip to Hot Springs, and he was never able to say whether he came by El Paso or St. Louis.

Time of treatment was three months.

Case No. 2.—Male; age, fifty; did not give a definite history of lues, though he had had gonorrhea and had been frequently exposed. The first sign, so far as he knew, was the appearance of a gumma in the region of the tonsil. This was curetted, and quickly absorbed under treatment. The patient then ceased treatment.

A year later he began to have dizzy spells and severe headaches, chiefly in the frontal region and on top of the head. He commenced to see double, and noticed that he had poor control of the ocular muscles. On the left side there was ptosis. The body muscles were weak. On several occasions he collapsed and became unconscious for a few minutes.

His physician at once began anti-luetic treatment, and he was sent here to complete it. When seen by me, few of the above symptoms were present except a weakness of the eye muscles. A thorough course of inunctions was given. There has been no return of the symptoms.

Case No. 3.—Male, age fifty, with history of lues seven years ago. Treatment was discontinued after nine months, and was not resumed until the onset of present symptoms.

Two years ago the patient began to complain of dizziness, headaches and nausea. The last was persistent, accompanied occasionally by vomiting, and at times he complained of pain in the stomach and in the region of the liver. His sight bothered him; double vision was frequent.

His mental power began to fail; he was inattentive to his business, but at times seemed normal. With these symptoms, there was un-

steadiness of the limbs and a right-sided weakness. There was no history of ataxic pains in the limbs. Next, convulsions began to appear, general in character, and accompanied by loss of consciousness, lasting a few minutes to one-half hour or longer. The muscles on the right side of the body, including the face, twitched; my own observation was twitching of the facial muscles.

The patient was downcast. He had a fixed idea that recovery was impossible. There was something in his stomach, he said, that had to be cut out, and he often asked that this be done.

Examination.—Pupils equal, reacting to light and accommodation. Muscles of eye weak, following movements of finger slowly. Mental condition poor. Patient answers few questions himself, but refers them all to his wife. No impediment of speech. Muscles on the right side of face occasionally twitch. Throat slightly reddened; tonsils enlarged.

Heart and Lungs.—Negative; arteries sclerosed; blood pressure high. Pulse rate, sixty to seventy.

The liver is palpable and somewhat enlarged.

Reflexes everywhere exaggerated; knee-jerks present. Muscular weakness of the limbs extreme. Sensation is normal. Patient is able to judge of position of the limbs with eyes closed.

Under ununctions and injections the patient showed improvement. The weakness of the limbs lessened and patient began to walk without the use of a cane and without unsteadiness. He was subject, however, to spells of despondency; in one of these he drank a pint of pure grain alcohol with suicidal intent, but an emetic brought it up immediately. The next day he cut his throat with a pair of scissors.

It is needless to state that some of the symptoms of this patient are suggestive of Tabes, but my own opinion is that most of his symptoms were due to involvement of the vessels of the brain.

DISCUSSION.

Dr. Morgan Smith (Little Rock)—I have enjoyed the doctor's well-rendered elucidation of this important though neglected subject. His cases are described in an especially clear manner, and throw much light upon this condition. I would emphasize the importance of headache as the earliest symp-

tom of grave trouble in brain syphilis. I recently saw a case which had been neglected for several months. The man was fifty years old; had syphilis at thirty-five; was treated about six months. At the age of forty-eight, or two years before his death, he began to have severe headaches, lasting from one to two days. At first the headaches were infrequent, occurring once or twice a month. These became more frequent as the trouble advanced. He had severe headache continuously for three weeks preceding his death. Ptosis was marked on the right side, and the right pupil was much more dilated than the left. His death resulted from a slowly advancing apoplexy.

In all syphilitics, even years after infection, such symptoms as frequent headaches, ptosis, inequality of pupils and disturbances of vision should lead us to suspect the probability of brain syphilis. Forewarned is forearmed. All such cases should be vigorously treated. We should realize that these danger signals should be heeded, for the patient may be in danger of immediate death from invasion of the pons and medulla, causing paralysis of the pneumogastrics.

I wish to thank the doctor for his instructive paper.

Dr. Chesnutt—I have nothing to add, except my thanks for your close attention and evident interest in the subject of the essay.

EXOPHTHALMIC GOITER*.

By H. H. Kirby, M. D., Little Rock.

Exophthalmic goiter, described by Graves in 1835 and by Basedow in 1840, is frequently called by their names. Although well known and easy of diagnosis at that time, it has remained until the last decade of the present century for the discouraging features of the disease to be eliminated, and yet there are still many phases about which all are not in accord. However, the central fact is that certain pathological changes in the thyroid gland have a definite relationship to the thyrotoxicosis—the symptom complex of the disease—and that this toxemia is the result of an overactivity of a part or the whole of the thyroid gland and the production of an excessive amount of absorbable se-

cretion, which so long as the lymphatics remain unblocked (so that it passes into the circulation) some or all of the symptoms of the disease will be produced. In such a gland there is always a hyperplasia and in many instances an accompanying hypertrophy of the parenchyma.

Therefore the condition is one of hyperthyroidism—the overproduction and discharge of a substance into the circulation with the resulting symptoms such as muscular tremors, tachycardia, exophthalmos and such minor yet important ones as intermittent diarrheas, irregular sweating, mental depression without apparent cause, marked muscular relaxation and in some choreiform twitchings, overdistention of the cutaneous vessels, frequent gastric crises with vomiting lasting for a variable length of time and sometimes visible pulsation in the enlarged thyroid—all due to the toxemia resulting in the general relaxation of all the body forces.

The presence of a goiter or enlargement of the thyroid body is not essential, for in many cases it is not found until operation or at the autopsy, except in cases of simple goiter in which the compensatory overaction has occurred, and in the unilateral variety caused by a growing encapsulated adenoma of the thyroid. Indeed, an increase such as to cause a marked tumor in most cases is the result of the deposit into the acini of the gland of a non-absorbable thick colloid such as does occur in simple goiter. However, in any case where there is an enlargement of the thyroid, together with tachycardia or exophthalmos, a positive diagnosis should be made.

With all these symptoms there are marked intermissions, the pulse may become normal, the tremors disappear, the exophthalmus leave, the enlargement of the thyroid subside and a spontaneous recovery may result, or the disease may become more or less latent, the gland secreting little more than normal, so that the body is able to neutralize and prevent the effect of the poison; until from some indiscretion on the part of the patient an exacerbation will occur and although the attack may not be so severe as the preceding the effect is more lasting and there is seldom, if ever, a return to the normal.

The disease is primarily medical, for in at least one-half of the cases recovery results, whether due to the remedy (and many

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

of them have been considered specific) or to the rest, diet and hygiene has not yet been definitely determined. Probably the most highly praised of all the drugs used is hydrobromate of quinia given in five-grain doses three or four times a day, with the addition of a grain of ergotin in the very severe cases. Bromide of calcium and hydrastis combined have been valuable in some cases. A serum prepared by Beebe & Rogers has given good results in the early stages when in addition rest, diet and hygiene are instituted. Moebius' serum from thyroidectomized goats has also its advocates. The salts of picric acid have been used and with some success. At some time a specific may be found, but it is as yet unknown.

In the cases not responding early to the empirical treatments of the internist there will be a small per cent who will die of an acute toxemia; a large number will live on until some intercurrent disease ends the story, or as a result of the advanced toxic degeneration of vital organs a life will be made miserable, deprived of its pleasures, a mental and physical wreck and a detriment to the household and community. Should life continue until retrograde changes occur in the gland itself, hypothyroidism and myxedema will end the unhappy existence. This is the hope that can be given the patient from medical treatment. No so for the surgeon. His statistics show a death rate of 5 per cent in all cases, and in the ones early operated upon the mortality is practically nil. Besides, the results are very gratifying, swift, and devoid of the distressing and permanent injury of the expectant methods. It therefore behooves every medical man to refer each case of exophthalmic goiter not responding early to medical treatment to the surgeon, for the longer the delay, the greater the risk.

The surgical treatment must embody such methods as will assist nature in the reduction of the amount of thyroid secretion, either by a removal of a portion of the gland or a reduction of its blood supply, the method to be chosen according to the condition of the patient and the pathologic changes present.

In the early stages ligation of the superior thyroid vessels is all that is necessary to bring about a cure. This in cases of extreme toxicity is imperative as a preliminary pro-

cedure to lessen the danger of a more radical operation subsequently. The majority of the cases are fit subjects for the removal of the offending lobe and isthmus. In all the condition of the heart should be of first importance as regards operability.

Operations.—The operation for ligation of the superior thyroid vessels can be easily and quickly done under cocaine anesthesia. The anterior border of the sterno-mastoid in the superior carotid triangle being selected as the place for incision. After a thorough infiltration of the region with anaesthetic, the skin may then be incised, the muscles covering the upper pole drawn outward, and the artery and vein together with some of the surrounding tissue isolated and ligated, silk or linen being preferable. This in favorable cases can be done on both sides at the same sitting.

For nucleation of adenomata and excision of portions of the gland, the incision most commonly used is the transverse collar incision, which permits of a clear field for operation, results in little trauma, and gives free access to the tissues. The incision begins at the upper border of the larynx and extends along the anterior border of the sterno-mastoid to within an inch of the manubrium sterni; it is then carried across the neck, describing a gentle curve, and is brought to a point opposite the upper part of the first cut. This includes the skin, superficial fascia and platysma myoides. The flap is then reflected upward when the anterior jugular veins will be seen descending upon the deep fascia near the middle line of the neck. These are ligated and cut. The underlying muscles—the sterno-hyoid, sterno-thyroid and omo-hyoid—covered by deep fascia, are now brought into view. A vertical incision dividing the fascia allows a separation of the hyoid muscles. For removal of adenomata this is all that is necessary, but for a more extensive dissection these muscles, together with the fascia, are severed high and retracted to give a clear field for operation. This may be done on one or both sides, as the occasion demands, care being taken to secure the large vein connecting the thyroid plexus with the anterior jugular vein. The thyroid gland being exposed, is easily recognized by its lobulated and extremely vascular appearance, a plexus of veins covering the surface and connecting with the infe-

rior and superior thyroid veins. The upper pole is then liberated, the capsule opened and the superior thyroid vessels ligated within it. The cut is then carried downward along the outer border of the gland, and by means of a gauze sponge or the finger the capsule is separated from the posterior portion of the gland. Some difficulty is at times experienced by the trabeculae passing from the capsule into the gland substance. At the same time the lobe is displaced forward, the branches of the inferior thyroid artery ligated within the capsule to prevent shutting off the blood supply to the parathyroids and including the recurrent laryngeal nerve as it passes upward in the interval between the trachea and oesophagus, and frequently between the terminal branches of the inferior thyroid artery. The inferior thyroid vein is then seen leaving the lower posterior part of the gland, and is ligated and cut, when the lobe can be removed either by severing the isthmus or a part of it, or even a portion of the remaining lobe can be included, care being taken not to injure the trachea. Oozing is stopped with a few catgut sutures; the wound, after instituting drainage (preferably a glass or rubber tube being used, through a counter opening lower down), is closed, the severed muscles are united, the subcutaneous connective tissue and platysma are drawn together by a few interrupted catgut sutures to prevent spreading of the skin wound, and a continuous horsehair suture is placed in the skin, to be removed in four days, that suture marks may not occur.

For the removal of adenomata, after making the necessary exposure, the capsule is opened, the tissue of the thyroid incised to the capsule of the adenoma, which is then enucleated, all bleeding points having been secured; temporary drainage is instituted and the wound is closed as in the previous operation.

General anaesthesia is preferable, the safest and most commonly used being ether. If ether is used, a hypodermic injection of one-quarter grain of morphia and one-one hundred and fiftieth of a grain of atropia should be given to allay nervousness and prevent the accumulation of mucus.

The area is drained thirty-six to forty-eight hours to prevent a possible hyperthy-

roidism collection of blood, which sometimes occurs in these cases. The subsequent treatment is rectal irrigation, sedatives, and, later, tonics.

I have a case to report of exophthalmic goiter upon which I operated. A girl, white, twenty-one years old, single, had been healthy since childhood; at nineteen became very nervous, suffered from intermittent diarrhoea, vomiting, weakness, shortness of breath, palpitation of the heart on least exertion; noticed eyes began to protrude and a palpable enlargement of the thyroid appeared on the right side of the neck. Symptoms always became worse during the menstrual period. Examination of the patient showed a pulse 132 to the minute, and very soft; exophthalmus, anemia, very nervous and excitable; enlarged right thyroid lobe and isthmus; other physical findings were negative. Operation was advised, to which the patient readily consented. The right lobe and isthmus were removed, the operation as described being done with the exception that a small portion of the lobe over the recurrent laryngeal was tied off and left. The patient, since the operation, has been able to follow her vocation, that of teaching, and is no longer troubled with any of the above-mentioned symptoms, and is enjoying at present perfect health.

DISCUSSION.

Dr. Thibault—Dr. Kirby is to be congratulated upon the recovery of his patient, as the dangers of the operation are very great where the pulse is so high. One point that I have noticed in connection with this disease is the difference in its effects on negroes and white people. In the negroes the enlargement of the gland and exophthalmos are the most prominent symptoms, while in the white race, especially in women, the cardiac symptoms predominate. I had one white woman relieved of her circulatory disturbances by operation, who had all the symptoms of Graves' disease, except enlargement of the thyroid body, and the removal of part of an apparently normal gland cleared up the symptoms entirely. On the other hand, I know a number of negroes who have large goiters and pronounced exophthalmos, whose circulation is apparently normal.

Dr. J. W. Smith (Hot Springs)—I wish to congratulate Dr. Kirby upon his most excel-

lent paper; also, upon the success obtained by his operation upon patient reported. I am frank to confess that my experience from a surgical standpoint with exophthalmic goiter cases have not been so flattering as Dr. Kirby reports. Many cases are beyond the pale of surgery when they consult the surgeon. I have no doubt, could the surgeon have the opportunity to operate at the proper and favorable time, results would be good and mortality low or nil; but, alas, the surgeon is rarely so fortunate. I have operated upon exophthalmic goiter cases in early state of disease by removal of right lobe with gratifying results. I have operated upon cases when removal of right lobe did not suffice; but in addition, by removal of left lobe patient would be relieved. I have operated upon advanced cases with no apparent good results from removal of right and left lobes. I have removed the cervical sympathetic-plexus of nerves, in some cases on both sides, with good results. I have removed thyroid glands (goiter), right and left lobes, cervical sympathetic-plexus of nerves from both sides, all with no apparent good results. No two cases of exophthalmic goiter are the same; also, condition of patients are different. An operation that would relieve one would not avail the other. However, should we see the case early, I think removal of right lobe, with ligation of right superior and inferior thyroid arteries, much preferable, and better results follow, than from ligation of right and left superior thyroid arteries. In the large majority of cases it is the right lobe that shows first evidence of enlargement.

Should that not suffice, the next operation should be removal of the left lobe, with ligation of left superior and inferior thyroid arteries. In my opinion, isthmus should never be removed except when malignant. After removal of right and left lobes, with ligation of arteries on both sides, should the disease refuse to yield, right cervical sympathetic-plexus of nerves should be removed. Should the disease still refuse to yield, the corresponding plexus on other side of neck should be removed.

Some surgeons rely more upon removal of cervical sympathetic-plexus of nerves than upon removal of thyroid glands. The cervical sympathetic-plexus of nerves are

easily exposed by incision along posterior border of sterno-cleido-mastoid muscle. There are three ganglia in said plexus—superior, middle and inferior. I would advise removal of superior and middle, and no attempt at removal of inferior, as its close proximity to sub-clavian vessels make it difficult and hazardous, and, as a rule, exophthalmic patients are not favorable to severe or long operations.

I cannot agree with Dr. Kirby in the use of cocain in exophthalmic patients. As a rule, the heart and nervous system are much overtaxed. Therefore, cocain sufficient to anesthetize field of operation would be most dangerous indeed.

Dr. Kirby—If Dr. Smith has had fatal results it possibly would be due to two causes—infection and operating upon cases too far gone for operation to relieve. To prevent infection, cocain anesthesia would be preferable, because the infection is caused, usually, by discharges from the mouth and throat. If the doctor has done such extensive dissections on the cervical sympathetic and thyroid gland as he states, I do not wonder that his results are not good. Possibly I misunderstood Dr. Smith when speaking of the removal of the right lobe of the thyroid, when he spoke of the ligation of the superior and inferior thyroid arteries as though not necessary in removal of the right lobe. In complete removal of either lobe it is necessary to ligate both these arteries. I think the doctor is mistaken about removal of the isthmus. Such authority as Oschner recommends its removal. In many cases there is no isthmus. In most goiters a portion of the gland is incised; however, in inflammatory goiters, treatment consists in incision. In the vascular form and Graves' disease, ligation of the vessels is frequently done.

Of the colloid goiters, operative treatment carried out along definite lines is free from danger, and should be resorted to in all cases where medicinal treatment has failed, or, as happens in a large number of cases, has proven harmful. In many cases medicinal treatment is hopeless from the beginning. Any goiter becoming adherent, nodular, cystic, or where they extend into the thoracic inlet or compress the trachea, or where there is a suspicion of malignancy. The dangers of operation in exophthalmic goiter depend

usually on the harm done by the disease before operation. These may be eliminated by early operation.

WASSERMANN REACTION.*

By M. F. Mount, M. D., Hot Springs.

In 1906 Wasserman, Neisser and Burke (1) in their now classic article announced that the Bordet-Gengon (2) reactory could be applied, practically to the diagnosis of syphilis. Coming, as it did, at a time when the interest in the great question of syphilis had been re-awakened by the discovery of the specific cause of the disease, large numbers of workers of note entered into this investigation with enthusiasm and having written fully of their results, the bibliography of the sero-diagnosis of this disease has reached large proportions, and is accessible to all.

So many articles have appeared lately setting forth in detail the technique of the original Wassermann test, together with the various modifications which have from time to time been proposed, that I have felt it unnecessary in this paper to take up the time of the secretary detailing the technical part of this work; but will confine myself to a review of the results we have obtained in our personal work in Hot Springs.

The data upon which our observations are based were obtained from the sera of 150 patients, and I may here say by way of explanation that the practice of our laboratory is the technic proposed by Wassermann in his original article, with the exception that we have used a guinea pig heart antigen instead of a syphilitic liver extract. The test has been made in each case with a known positive control and a known negative control, and in so far as possible we have made the tests without knowing the clinical history of the patient whose serum was being examined, trying in this way to reduce the influence of the personal equation to a minimum.

Of the 150 cases of syphilis, suspected syphilis, latent syphilis, para-syphilis and cases for diagnosis, 110 were negative and 40 positive, as follows:

2 cases in chancre stage, 2 or 100 % positive.

10 cases in secondary stage, 10 or 100 % positive.

5 cases in tertiary stage, 4 or 80 % positive.

14 cases in tabes stage, 6 or 42.8 % positive.

17 cases with positive history but no symptoms, 7 or 41.1 % positive.

2 cases children with known syphilitic parents, 1 or 50 % positive.

2 cases transverse myelitis, 2 or 100 % negative.

98 cases with a hazy history of some sort of a sore on the penis, irregular sore throat or skin eruptions, clinically negative and, from the history, doubtful, sent for diagnosis, 10 or 10.2 % positive.

150

We find that under the influence of mercury the reaction quite rapidly becomes weaker, and that when the patient has reached the point of saturation with this drug and the clinical manifestations have subsided, the reaction is negative.

There are a few exceptions to this rule, however. A few patients will have the clinical symptoms disappear, and the patient will be apparently well; but the reaction will be positive.

Now, whether the patients who clinically get well and at the end of their treatment give negative reactions, stay well and have no recurrence of the disease, and that those who clinically recover, but have a positive reaction at the end of their course of treatment, subsequently have a recurrence or not, I am not prepared to say.

The few conclusions that I want to draw from the above sketch are as follows:

A positive Wassermann reaction means syphilis, and that the patient needs active mercurial treatment.

A negative Wassermann reaction means that for the time being the patient does not need treatment.

A patient having once had clinical syphilis, or had a positive Wassermann reaction should have the test made frequently over a long period of time.

DISCUSSION.

Dr. Bledsoe (Little Rock)—I have had little or no experience with the Wassermann reaction, on account of the difficulty of obtaining material and the careful technic involved. In my opinion it should only be

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

done by trained men. I have used the Noguchi modification for some time and, in fact, have adopted it as routine in suspected cases. The results so far as I have been able to determine are very satisfactory. The test is very simple and can be made by anyone with an ordinary knowledge of laboratory methods.

I merely wish to emphasize the fact that we now have the means of determining almost exactly the condition of a patient either with an old syphilitic infection or a suspected case of syphilis. These cases should always be subjected to a Wassermann or Noguchi test. I have found it particularly valuable in the diagnosis of obscure nervous conditions, where there is doubtful or merely suspected history of syphilis.

I am very glad to note that Dr. Mount is doing this work in this State.

Dr. M. D. Ogden (Little Rock)—Dr. Mount is to be congratulated on the fact of being one of the few men in this State who are doing this work. No doubt, if we checked the results of our treatment of many of these cases by the Wassermann reaction we should benefit many of our patients, either by continuing the treatment while the reaction persisted, or discontinuing it when absent. There is one point in connection with this, and that is, to ensure reliable results the work ought to be done by a man specially trained in laboratory methods. I do not think that the general practitioner is capable of doing this work in his office and attend to his practice at the same time, even though he might be provided with the handy Noguchi now put out by one of our pharmaceutical houses. This test is put out in compact form; is quite simple, comparatively speaking; but even at that, it requires intimate knowledge of laboratory methods and an amount of time which the man who is even only fairly busy, is not able to devote to it. One cannot make a Wassermann or a Noguchi with the same facility or the same amount of training necessary to examine sputum for tubercle bacilli or urine for casts. It takes a specially trained man with a special laboratory; and if these conditions are fulfilled, I do not believe there is any chance of the value of the reaction becoming discredited.

Dr. Chesnutt (Hot Springs)—I was much interested in Dr. Mount's paper. It is a

source of much gratification to the physicians of Hot Springs to know that Dr. Mount has placed the Wassermann test at our disposal.

The use of the Wassermann test as a means of diagnosis of lues has long since passed the stage of experiment; its value is undoubted, and it is difficult to understand why it is not more in use. I have on hand now two or three cases which illustrate its value. One of these in particular I wish to mention, not because a Wassermann was made or was necessary for a diagnosis, but because the physician who first treated the patient could have made a diagnosis at once had he made a Wassermann. A woman, age 35, with no history of a primary infection, but with a history of a sore throat seven years ago and a slight rash over the body, came to me suffering from a broken down guemua of the ospoutabs. There was no other sign of lues on her; nor had there been any symptom other than that mentioned above and a gradual loss of weight of forty pounds through seven years and the development of a severe anemia. The diagnosis had been made of tuberculosis of the frontal bone and for tuberculosis she had been treated. The Wassermann not being accessible when she came under my care, a diagnosis was made by the demonstration of the spirvebeta pallida and the clinical signs. Removal of the sequestrum and appropriate treatment slowly relieved her. Any time in the past seven years a Wassermann would have cleared up the cause of her ailment and saved her from the deformity which she now suffers.

The above case illustrates the positive value of a Wassermann; the following its negative value: A young man came to me recently with this history: Sore on the penis four years ago, which healed after cauterization. One month later, three venereal warts appeared which were removed with a cantery. Five months later, a rash, which, from the history, was suggestive of eczema, appeared on the lower limbs and was diagnosed as syphilis. He was placed on mercurial treatment, and continued it in an intermittent manner six months to a year. He came to me two and one-half years later, desiring treatment. An examination was negative; the history of primary infection

and of secondaries was poor and a Wassermann was negative—the last being what I suspected it would be, but clearing up for certain the question of syphilis.

These two cases illustrate well the value of the Wassermann. I wish to thank Dr. Mount for his most valuable paper and to urge those who have not taken advantage of their opportunities along the line of a Wassermann to do so as once.

Dr. Mount—In closing this discussion I do not know that there is much I can add except to give a word of caution about the use of Noguchi's modification, which Dr. Bledsoe spoke of. The modification as proposed by Dr. Noguchi, if carried out with fresh reagents, offers, as far as I can see, no advantages as regards saving of time or ease of manipulation over the method as originally proposed by Professor Wassermann.

On the other hand, there are some fallacies, particularly as the amount of material used in carrying out of Noguchi's modification is so small that the results will frequently be equivocal simply by reason of the smallness of the amount of the material used, which makes the end result difficult to read.

But when the reagents are put on little pieces of filter paper to be kept indefinitely and then used, his method becomes, not alone unreliable, but dangerous, because we know that these bio-chemic reagents deteriorate very rapidly and require constant testing to find out their potency. With these little slips of paper there is absolutely no way of testing their strength, or whether they have any or not.

Dr. Noguchi's idea in making the serum test generally available is indeed a laudable one; but I am afraid that the scattering of these little test papers broadcast, to be used by men who have little or no knowledge of bio-chemic reactions, who have not the training or laboratory facilities to enable them to use the method intelligently, will do more harm than it can do good, and will be a means of bringing an undeserved suspicion on serum reactions in general.

I wish to thank the doctors for their kind reception of my little effort and for the generous words they have accorded me.

MENTAL SYMPTOMS OF UREMIA.*

Dr. Wilbur L. Allison, Fort Worth, Tex.

This paper is written for the purpose of bringing to your attention the fact that uremia plays a prominent part in the insanities of middle and later life. The cerebral symptoms of uremia do not properly belong to the class of insanities, though often mistaken for such. A knowledge of the mental symptoms of uremia, together with a chemical and microscopical examination of the urine, will enable us to make a quicker and more correct diagnosis, a more definite prognosis, and also give us a better idea as to the treatment of many mental cases.

The more I see of mental diseases, the more firmly convinced I am that a disordered mind, excluding idiocy, is not the result of a haphazard happen-so, due to faulty heredity, but that there is a definite pathological cause in every case, which, if found and removed before organic brain changes have taken place, will relieve many cases of mental disease which now have a tendency to become chronic.

It is true that many cases of delirium tremens, epilepsy, acute mania, melancholia and paresis show evidence of renal disease by the presence of albumin and casts, but it is my purpose to deal only with those cases whose mental symptoms are due entirely to uremia. In the above mentioned psychoses the abnormal urinary findings frequently disappear as the patient recovers, and possibly an occasional uremic case may entirely recover, as do some cases of mental disease due to Bright's disease, but most of them, even when the mental symptoms disappear, continue to show evidence of chronic disease of the kidneys.

We are taught that uremia occurs in some form or other in the final stages of nearly all cases of chronic nephritis. Uremia is the various nervous phenomena due to the retention in the blood of tissue poisons which should be eliminated through the kidneys, or due to some derangement of the internal secretion of the kidneys. The internal secretion theory does not seem good

*Read at the Wichita meeting of the Medical Association of the Southwest.

to me because the kidney is not all destroyed and the administration of animal kidney substance does not relieve the symptoms as in the case of other organs having internal secretions.

Osler gives the cerebral of uremia under six heads, as follows: Mania, delusional insanity, convulsions, coma, local palsies, as hemiplegia or monoplegia, and headaches. The mania may be abrupt in onset where there have been no previous symptoms. Delusions of persecution are common and there may be profound melancholia. The convulsions may be unexpected or may follow a restless headache and they in turn may be followed by blindness. Paralysis may come on with or without a convulsion and not be due to brain lesions.

By some it is thought that uremia and eclampsia are closely related. Some have found an increased quantity of sodium salts in the blood not only in uremia and eclampsia, but in epilepsy also. In fact, it has been demonstrated that the injection of salt solution can bring on the uremic state in lower animals and I believe I have seen a more rapidly fatal result follow the administration of normal saline solution in uremia.

Dr. Mitchell of Fort Worth, Tex., has ably presented the fact that there is a deficiency of calcium salts in the blood in eclampsia, and other observers have obtained the same findings in uremia and epilepsy.

I shall not go into details as regards the amount of urea, albumin, chlorides and other salts, for while we recognize the value of such observations, we have found it impossible, on account of the mental condition of the patient, to obtain a 24-hour specimen in most cases.

As a rule the amount of albumin is small and in some cases it is merely a trace and would be overlooked except by the most delicate tests. As the case gets better the amount may diminish or may remain the same. The casts are usually hyaline or granular. In some cases there is almost a complete anuria, which later may be followed by a large quantity. It is said that the uremic psychoses are more frequent with a contracted than with a large white kidney. Kidney changes should be suspected in patients with hardened arteries.

Probably the most prominent symptoms usually observed are a restless, almost manic condition in which the patient talks a great deal, sometimes in a very incoherent manner, and sometimes converses with invisible persons, and being very suspicious of every one and everything, believing the food and drink are poisoned. Frequently they resist all efforts at examination and attempt to defend themselves as if from an assault. All movements are sometimes spasmodic or jerky. The patient may be constantly looking or listening for some unseen foe. The mouth is often dry and the breath foul and tongue heavily coated. Urine and feces may be passed involuntarily. Pulse may be strong and full and sometimes very rapid. The skin is frequently dry. The reflexes are frequently increased. The patient is usually sleepless and very restless at night. The coma is often not so profound but that the patient can be aroused or frequently moves himself or mutters as in a deep sleep. A marked peculiarity is that the patient may have occasional lucid intervals when the mind is apparently perfectly clear and the patient recognizes the situation. The abrupt beginning often when the patient is in apparent good health is not uncommon.

To make a diagnosis it is necessary to differentiate between this and other mental diseases occurring at this age. The finding of albumin and casts often explains the presence of convulsions or coma which might be thought to be epileptic or paretic. Anuria is frequently present in hysteria, but the presence of casts and albumin and the uniferous orod serve to make the condition clear, as well as other hysterical symptoms which are not compatible with uremia. Meningitis might be suspected, but the slow onset of the coma and the absence of fever would help to eliminate it. Lumbar puncture in uremia often shows a marked increase in the cerebro-spinal pressure and cerebral symptoms often show marked temporary amelioration following the withdrawal of sufficient fluid to lower the pressure. Some believe the cerebral symptoms depend on the cerebral anemia produced by an increase in the intra-cranial tension from cerebral edema, but most authorities agree that the symptoms are not due to the local or general

edema of the brain from an increased amount of fluid, but believe they are due to the presence of the toxins which themselves are responsible for the edema. This seems to me to be the most reasonable explanation.

We have recently had in the sanitarium under our care fourteen cases whose mental symptoms were distinctly those of uremia, and yet in only three of the cases had the family physician determined the fact that there were renal complications and that they might have something to do with the mental symptoms. If these facts were recognized earlier much could have been done for the relief of the patient and mental complications might have been avoided or at least alleviated. We have also recently had under our observation a case, age 57, who has twice had severe convulsions lasting six to eight hours, which were preceded by constipation and headache. He has now gone some weeks with the best of health by having his kidneys and bowels looked after every day.

Case No. 1—Male; age 40; gave history of neurasthenic symptoms, with insomnia, followed by sudden maniacal symptoms, which in two or three days were in turn followed by a comatose condition. The patient could be partially aroused to take nourishment and medicine. The temperature ran high. Skin dry, later moist. Albumin and casts.

Case No. 2—Female; age 45. From neurasthenic symptoms she became suspicious and later maniacal. From the beginning she maintained that she would not get well. Died in coma.

Case No. 3—Male; age 60. Just before leaving home the family physician gave hypodermic of hyocine and morphine to control the restless delirium and keep him quiet on the road. He never recovered from the coma that immediately followed. The coma was not profound.

Case No. 4—Male; age 45. Became suddenly talkative and almost violent. Gradually became stuporous with muttering delirium. Tongue and mouth foul and breath bad.

Case No. 5—Male; age 50. Became suspicious of neighbors, later maniacal. Family physician gave a large dose of chloral and bromide to keep him quiet on the train.

From the coma which followed he waked once and was rather clear mentally, but the coma returned in a short time and he died in a few hours.

Case No. 6—Physician; nearly 70 years old. Had marked arterio-sclerosis. Began with a slight and partial hemiplegia, his speech being slightly interfered with. Quickly recovered almost entirely from the hemiplegia, but gait was unsteady and there were tremors about the hands. Involuntary micturition and defecation. Uremic odor. Untidy and easily angered.

Case No. 7—Male; age 40. Gradually became depressed and melancholic. Emaciated, skin white and drawn. Suspicious of every one and did not like to be touched. Restless and sleepless. Refused to eat. Urine very scanty for weeks. Still living after several months, though not much improved.

Case No. 8—Male; age 35. Entered sanitarium in coma, from which he could not be aroused until just before death. Transfusion with normal saline solution apparently deepened the coma and hastened death.

Case No. 9—Female; age 48. Patient became very suspicious and afraid of every one. Believed food and drink were poisoned. Talked excitedly. From the beginning she believed she would die. Movements were all jerky. There was a papular eruption over the entire body.

Case No. 10—Female; age 50. Became suddenly sick, restless, low delirium and stupor. Skin and mouth dry and tongue foul. Urine scanty and involuntary.

Case No. 11—Male; age 55. Began with slight hemiplegic attack, followed by disturbance of speech, which at times was normal. Vision markedly dulled, hearing poor. Would mutter at times. Occasionally incoherent. Tongue dry and foul. Defecation and micturition involuntary. Uriniferous odor. At times this patient was apparently normally clear.

Case No. 12—Female; age 50. Suddenly became maniacal. Previous health had been good and no disease of any kind suspected. Talked loudly and frequently to invisible persons. Thought children were being burned. Marked insomnia. Face showed marked fear and intense anxiety. Would fight doctors and nurses if they attempted to touch her. Believed she was going to be

killed. Had occasional intervals when she was very clear and said she had dreamed horrible things. Tongue dry and coated and breath foul. Condition lasted two weeks and she died in coma.

Case No. 13—Male; age 50. Began to take no notice of his surroundings; would sit quietly with a stare and when questioned appeared not to understand. At times was very delirious, with lucid intervals. Suspicious and afraid of all about him. Tongue dry and coated. Breath foul and uriniferous.

Case No. 14—Male; age 63. Suddenly became maniacal, talking constantly and incoherently. At times violent. Extremely suspicious. Heard strange sounds and voices and frequently talked to them. Believed water and food poisoned. Expression showed marked fear. Tongue dry and foul. Had lucid intervals.

In conclusion I believe many if not the majority of our mental cases over forty years of age after pellagra and paresis are eliminated are uremic, and no doubt many of our cases of hemiplegia are in reality uremic.

PSORIASIS—DIAGNOSIS AND TREATMENT.*

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This is not intended for a scientific paper on this subject, but is an attempt to assist those in general practice to recognize and care for these cases which are frequently seen in the general practice of medicine. We will therefore not dwell long on the cause of the disease, which is not known, and hence would not be a profitable subject for discussion at a meeting like this. That phase of the subject may well demand the attention of the specialist and research worker, but the man in the field must deal especially with diagnosis and treatment. Many cases come to us with a diagnosis of eczema made, and instructions given by no means beneficial to the disease. Since these two diseases require, as a rule, quite different treatment, it becomes necessary to distin-

guish between them. The same may be said about several other diseases—especially the squamous syphilides, seborrhoea, pityriasis rosea and lichen planus.

Psoriasis is essentially a dry, scaly disease of the skin. It is generally chronic in character. We have some acute outbreaks, but even in these the clinical characteristics suggest chronicity. There is a great variety in the amount of integument involved. There may be but few lesions, and small ones at that, or the major part of the entire skin may be involved. We see cases, all the way between these extremes. The discreet lesion is circular or oval in outline—varying in size from a pinhead to a silver dollar. The case is red, sometimes deeper in color than others, but never white or brown, in the white race. It is usually somewhat elevated above the surrounding skin, and is covered with a rather heavy scale, generally described as silvery or mother-of-pearl in color. The surface of the scale may vary in color to a limited extent on account of superimposed foreign matter, but the under surface always presents that glistening white color, which resembles mother-of-pearl more nearly than anything else we can call to mind. This discreet lesion is usually small at first and grows by extension of the periphery in a symmetrical manner, thus forming the larger lesions. Where they are numerous and located close together they may coalesce, thus forming patches of various sizes and shapes. These patches continue to maintain the characteristics of a reddened base and superimposed scales. The scales loosen and drop off, new ones forming rapidly to take their place. When they are tightly attached to the base and are forcibly detached, tiny drops of blood may appear on the reddened surface beneath, showing that the forcible detachment tears some of the minute superficial blood vessels which occupy the papilla. Favorite sites for the development of lesions are: The scalp and extensor surface, especially of the elbows and knees, but they may appear on any part of the skin and even the nails are sometimes involved. In making a diagnosis, we must depend more on the clinical features of the eruption than on its location or distribution. Cases have been mistaken for something

*Read at the Wichita meeting of the Medical Association of the Southwest.

else because the principal lesions appeared on the abdomen.

A. Weyl says the lesions are prone to develop in places subjected to mechanical or chemical irritation; such as after vesication, mustard poultices, cupping, pressure from clothing, etc. He gives an illustration showing how tattoo marks affected a psoriatic eruption. Wm. F. Breakey also reports some cases which would corroborate this statement. This disease must be distinguished from scaly syphilides, which somewhat resembles it. They are of a dirty gray or brown in color and lack that shining whitish luster found in psoriasis. In syphilides some other manifestation or history can usually be elicited. In seborrhoea the scales are of an oily nature and not dry and glistening. On account of this oiliness the seborrhoeic scales become darker, due to retained dust which settles on the surface.

Pityriasis rosea may also be confounded with psoriasis, but it ordinarily should not. The lesions are more rosy in color and the scaling is much lighter. The scales are fine, more like we see in the scaling of dandruff on the scalp.

Lichen planus may come to resemble psoriasis in old cases, but the distinct feature of lichen, the shiny flat topped papule, should enable one to distinguish between the two, in nearly all cases. Then, too, lichen is usually a very itchy disease, while psoriasis is not.

Scaly eezemas are sometimes confounded with psoriasis, but in these cases we find a great amount of itching, and a lack of the small isolated lesions found in psoriasis. Patches of eezema are not usually so sharply circumscribed, but fade gradually into the surrounding skin. Taking the clinical features all together, this is a disease which should ordinarily be readily recognized and distinguished from all others. The cause of this disease is still unknown. Many attempts have been made to find a microbic origin, but thus far all have failed. Dr. Bulkley seems to think it due to the use of meat in the diet of such patients; but we find cases continue even when meat is abolished from the diet. Others believe it to be a skin manifestation of a disturbed condition of some part of the nervous system. This last seems to me to come nearer the truth of the matter than all others. In practically all

the cases I see, there is a neurotic history in the family or in the patient. We will say nothing more on this phase of the subject as we regard it, so far as the profession at large is concerned, as purely speculative.

TREATMENT.

There are no specifics in the treatment of this disease. Cases cannot all be treated successfully in the same manner or with the same drug. Our patients must be studied as well as the disease. The general health of the patient should be cared for, where there is occasion to do so. Many patients with psoriasis appear to be perfectly healthy in every other way, and believe they are. In these cases we will sometimes find deficient elimination, imperfect assimilation or some other imperfection in metabolic processes of which they are not aware. When these defects are discovered and corrected they are treated with better results.

A case in my own practice very aptly illustrates this: The patient is an attorney who does a great amount of work as a trial lawyer. He has a great brain activity and is a very busy man. His case of psoriasis was very extensive, involving probably one-third of the skin surface, and of fifteen years duration. Many attempts had been made to cure this, without success. In an effort to get to the bottom of the trouble, we found glycosuria present at times. The presence of sugar seemed to depend on the excessive amount of strain put upon the nervous system. When he had a time of rest, as in vacation times, the glycosuria disappeared. It was also less, or entirely gone early in the morning after a refreshing night's sleep. When the glycosuria disappeared, the psoriasis improved, and in these intervals we succeeded in clearing the skin of the lesions. Breakey reports cases, which were complicated with rheumatism, and seems to infer that the rheumatism may have had some effect on the development of the psoriasis.

Following the same train of thought, we conclude there probably is something in Dr. Bulkley's idea of diet, improper food acting just as any other morbid condition may act. Treatment, should be both internal and external. Many drugs have been used internally for this disease. The ones used more than any other, and from which more benefit seems to be derived is arsenic in some form.

It has a beneficial effect in a large number of cases, but is sometimes of no benefit at all. The more chronic cases are apt to be affected by this drug, in a salutary way. Other cases are affected beneficially by alkaline remedies such as the different preparations of potassium or sodium. Iodide of potash is quite good in some cases. There is some question if its beneficial effect is due entirely to the alkali in it, or if it be due to some other property of the drug. Other drugs have been used, but it seems unnecessary to occupy more time with them, as the ones mentioned are the principal ones found useful.

Of recent years we have a new remedy, which we find quite useful in many cases of this disease. It is quite remarkable to see the rapid improvement under a few treatments with the X-Ray. This improvement is not permanent, and must necessarily be supplemented by other methods of treatment. External treatment is resorted to in nearly all cases. Relief is obtained quicker by this means than by internal treatment. The drug that has a more powerful effect than any other is chrysarobin. When used in ointment form—20 to 30 grains to the ounce of ointment—it is very decided in its results. The lesions disappear rather quickly, but used in this way the drug may have some unpleasant results. It easily sets up an inflammation of the healthy skin with which it comes in contact, and in ointment form it is difficult to prevent it coming in contact with the healthy skin about the lesions. To avoid this, I have in some cases applied the ointment directly to the lesions and then surrounded and covered with flexible collodion. We may also dissolve the chrysarobin in chloroform, and paint this on the lesions. The chloroform quickly evaporates leaving the chrysarobin as a powder on the lesions, after which collodion is used to cover and keep in position. In two or three days the collodion will become loose and scale off, and another application can be used. This same drug has also been used dissolved in

collodion as traumaticin, but these vehicles, in my experience with them, always seemed in the way of the drug and prevented results. In handling chrysarobin, it is well to always bear in mind that it is a powerful drug, and can be used to the detriment of the patient.

A number of other drugs are used locally, the principal ones being salicylic acid, resorcin, and preparations of tar. They are beneficial, but have not as powerful an effect on this disease as chrysarobin. Various soaps are used along with ointment. The official green soap or *sapo veridis*, being among the best for the purpose of softening the scaly surface. A very good preparation is made of *sapo veridis*, salicylic acid, resorcin, and a moderate amount of chrysarobin. When an excessive amount of reaction is produced by these stimulating applications we should stop them for a time and apply soothing ointments, such as oxide of zinc or bismuth subnitrate, until the acute condition subsides, when the stimulating applications may be used again. When we succeed in completely removing the eruption in psoriasis we cannot assure our patients that they will not be troubled again. This is the unsatisfactory part about treating such patients; but the same can be said of many other diseases. When we cure an eczema, we can never assure our patients they will not have a return of the same disease. When we cure a case of pneumonia, we cannot assure our patient he will never have it again. Given the same patient, with the same train of conditions and circumstances that produced a disease once, we have every reason to expect that disease to be produced again. In some cases we are able to learn what these conditions and circumstances are, but in psoriasis we do not yet know, and hence we wonder why the returns. The essential thing for us to do for our patients is to cure the existing disease and teach our patients how to avoid the causes if possible, or at least how to check a beginning attack.

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ACUTE AND CHRONIC CHOLECYSTITIS.*

By J. M. Smith, M. D., Hot Springs.

The gall bladder is pear-shaped and measures approximately three to four inches long and one and one-fourth to one and one-half inches wide at the fundus; has an average capacity of one and one-half ounces.

It lies obliquely, the fundus being directed downward, forward and to right and touches the anterior abdominal wall at the meeting of the outer border of the rectus and the costal arch. This point corresponds with the tip of the ninth rib—in the lower edge there is often a notch opposite the gall bladder. A line drawn from right nipple to umbilicus will cross gall bladder. The neck of the gall bladder is directed upward, backward and to the left. All the fundus is covered by peritoneum, but above this there is a bare uncovered surface which lies in contact with the liver, in the fossa for the gall bladder.

The extent of peritoneal investment varies in different individuals. In about five per cent a distinct mesentery exists, so the gall bladder can move pendulum-like in the abdomen.

The posterior relations are from below upwards, transverse colon, duodenum and pyloric end of the stomach.

The gall bladder narrows to the cystic duct, and its walls become thicker and "S" curve results. Bevan, has pointed out that this curve can be straightened out by dividing the peritoneal and connective tissue around the neck of the gall bladder and the cystic duct.

It is just beyond the first turn that a stone may become impacted. It is then a matter of great difficulty to force the stone backward into the gall bladder, in order to remove it. At the commencement of the cystic duct there is a valvular prejection, and in fact a series of valvular projections, along the whole length of the cystic duct. They are crescentic in shape, and are the unfolding of the mucous membrane.

They are placed alternately on opposite sides. They are not arranged spirally as is

supposed. The cystic duct is one and one-half inch in length, and it runs downward and to the left between the layers of the lesser omentum to join the hepatic duct to form the common bile duct.

The cystic artery is close above and slightly to the inner side. In cutting across the cystic duct close to the common duct, other small unnamed branches of hepatic artery may be cut.

The average diameter of the cystic duct is one-eighth inch.

The gall bladder receives its blood supply from cystic artery, the gall bladder itself contains no lymph nodes, and has but few lymphatic channels. One gland is to be found at the junction of the cystic with the common duct.

The visceral peritoneum is poorly supplied with sensory nerves.

Branches of eleventh and twelfth dorsal and first lumbar nerve pass forward onto diaphragm and their terminal filaments reach the common and cystic ducts, and neck of gall bladder. So that this vicinity is sensitive to touch and when irritated gives rise to the characteristic diaphragmatic spasm, of gallstone colic, and grunting respiration, even under anesthesia.

It is supposed that the gall bladder acts as a storehouse for bile, and the bile is stored in the periods between meals.

From twenty to thirty ounces of bile in twenty-four hours. So that the single ounce held in the bladder is trifling. Further it has not been shown that the gall bladder contracts when full. Some believe that the gall bladder acts like the jar-bulb of a syringe and produces a steady flow instead of jet-like discharges. Certain it is that its function is unimportant and it has about the same status as the appendix and wisdom teeth.

The bile is not sterile, Odoine and Ford have shown that leukocytes pass out on the free surface or duodenum and upper jejunum picking up articles of fat and bacteria, and that these are destroyed in the lymphatics.

The portal radicles are continually absorbing bacteria which are carried to the liver and attenuated or annihilated and excreted with the bile. It is this attenuated infection of the gall bladder which probably together

* Read before the Thirty-fourth Annual Session of the Arkansas Medical Society, at Little Rock, May 3-6, 1910.

with the interference in drainage that underlies gall stone disease.

Cases of transposition of the viscera have been found, also cases of double gall bladder, each with a cystic duct. Gall bladders have been found situated within the cystic duct.

There are cases where the gall bladder was connected directly with the hepatic ducts in the liver itself, there being a congenital absence of the common duct. Congenital obliteration of the common and hepatic ducts have been noted rarely.

CALCULOUS CHOLECYSTITIS.

Definition—Concretions formed in the gall bladder due to an infection of the gall bladder. They set up characteristic disturbances (cholelithiasis).

Etiology—The common cause of the chronic cholecystitis is cholelithiasis. Concretions are formed in the gall bladder due to an infection of the gall bladder—for example, the colon bacillus and the typhoid bacillus.

Predisposing causes—sex and age. Statistics give out of 311 individuals, 227 women. It is more common between 40 and 60.

Irregular meals and an excessive diet, of starches and fats, with a sedentary life, or a likewise diathesis. Other causes are constipation, tight lacing, pregnancy, chronic obstruction, to the outflow of bile, from tumors, and catarrh of the ducts. Adhesions, in the region of the parts; compression, by enlarged glands, the head of the pancreas, or duodenum; atrophy of the musculature, of the gall bladder, from distention, or age, may lead to stagnation of bile, parasites. Tight lacing plays an important part by restricting the movement of the diaphragm by causing elongation of the liver, bending or twisting of the cystic duct, by inducing changes in the anatomical relations, which expose the cystic duct, to compression, especially when there is displacement of the right kidney, by causing gastro-duodenal catarrh, which may be followed by cholecystitis and cholangitis, relaxation of the abdominal walls, and enteroptosis from the stagnation of bile in the gall bladder, lack of exercise, long rest in bed, sedentary occupations, cardiac affections, especially mitral stenosis, predisposition to visceral congestion. Location due to

local differences in mode of life, occupation, and the influence of endemic disease, causing gastro-intestinal catarrh, may become factors in producing calculi.

The disease is not frequent under thirty. Statistics vary, some writers say women three to men two; others say three to one. It has been reported in new-born infants.

Pathology.—As to how bacteria reach the bladder, Bond has shown there are reverse mucous currents in the intestines, and that indigo and carmine particles have been carried from the anus to the gall bladder. It has also been shown that the bacillus, after being placed within the anus of the rabbit, can be found two hours later in the animal's mouth. These facts lead one to believe that the infection is an ascending one, from the duodenum. On the contrary, the duodenum in the vicinity of the common duct is usually sterile. Experimentally, gallstones have been difficult of production, the infection being of too violent a character, according to Lorkigon, New York Academy of Medicine, 1902. It is altogether probable that gallstones are due to micro-organisms, carried into the liver by vena porta, which infect the bile which is responsible for calculi, the action of the liver cells being to destroy or attenuate the violence of the bacteria.

According to Nounegn there are three important factors in the production of gallstones.

1st. Cholesterin is the direct result of action of the bacteria on the mucous membrane, and liver salts, in Welch laboratory, the typhoid bacillus has been isolated in pure culture, from the gall bladder, after an attack of typhoid, seven years before.

2d. Obstruction of free drainage, usually tend to swelling of mucous membrane, or result of an infection, by bacteria.

3d. Gallstone formation, or lithogenous catarrh (so-called). A catarrhal condition of the mucosa of the gall bladder, leading to a formation of cholestrin and lime salts, is the primary cause of formation of gallstones.

This lithogenous catarrh may be produced by various causes, but the most important is various bacteria, colon bacilli, streptococcus, pneumococci, staphylococci and typhoid bacillus.

They have been demonstrated in the center of gallstones.

Cholesterin, lime salts, and bilirubin, deposited around collection of epithelial debris, constitute the beginning of biliary calculi.

Chemical and physical properties of gallstones are composed chiefly of cholesterin, bilirubin, in combination with calcium and calcium-carbonate. Ordinary calculi consists of 70 per cent to 90 per cent of amorphous, or crystalline cholesterin.

The small dark stones found in the ducts consist, principally, of pigment, in combination with calcium and calcium-carbonate. Free pigment is not usually present. Calculi vary in size from size of grain of sand to goose egg. There may be one, a hundred or a thousand or more.

Multiple calculi are commonly polygonal or faceted. It sometimes happens that a small number of ovoid, impacted calculi, are found. When the variety is present in great numbers they are spoken of as gall sand.

Gallstones, impacted in the ducts, undergo enlargement, but further accretion of cholesterin and lime salts. Stones are found which could not have passed through systic duct.

When chronic cholecystitis is present, there is almost always a chronic dull aching. Sometimes of slight degree, sometimes severe, in the right hypochondrium. The pain during an exacerbation of the inflammatory attack is more acute, and in this form the diagnosis is most difficult.

Symptoms of Chronic Cholecystitis—In the symptoms of chronic cholecystitis there is nothing characteristic that would be suggestive of cholecystitis, or any form of gallstone disease. In this class of cases, the pressure sign is of greatest help. The inability of the patient to take a deep, full breath when the fingers are hooped deep under the edge of costal arch, below the hepatic region, and the patient asked to take a deep, full breath, when the tender and chronically inflamed gall bladder is forced downwards against the fingers. Inspiration suddenly stops, and ends in deep sighing or brisk expiratory effort. The symptoms of gallstone disease depend upon the location of the stones in the biliary tract, the virulence of the accompanying infection and the amount of obstruction.

The history is often the valuable single means of diagnosis. It is essential that it should be complete and the evidence be carefully sifted and weighed.

A patient may complain of chronic dyspepsia, and beyond that only a possible tenderness, on deep pressure over the gall bladder, during forced expiration may be found an early history of typical attacks of colic, possibly almost forgotten by the patient, will at once give a clue to the origin of the symptoms.

Careful investigation into the history, with a comparatively small amount of external evidence, will many times enable the observer, not only to diagnose gallstone disease, but also to accurately determine their location.

Gallstones in the gall bladder, accompanied by a mild and intermittent infection, give rise to sudden colics, which cause acute or varying epigastric pain, radiating to both sides, through the back and upwards instead of downward. The pain begins suddenly without regard to diet, exercise or time of day. Quickly reaches its maximum intensity in six to eight hours, and ceases as abruptly as its origin.

The sudden feeling of relief is accompanied by vomiting, or by sensation of movement of gas, and the patient regains normal well being.

There is no elevation of temperature and pulse is not increased.

The cause of the pain lies in a sudden temporary obstruction of the neck of gall bladder as a result of stone or swelling of neck due to infection. The gall bladder rapidly becomes filled with a serous fluid, producing a spasm of muscular structures. When this muscular contraction relaxes and permits the escape of bladder contents the pain is over.

The reason why there is no quickening of the pulse rate, or elevation of temperature, lies in the fact that the gall bladder has few lymphatic channels and no lymph glands and cannot absorb septic material with sufficient rapidity to produce bodily disturbance, and the gall bladder is so distensible an organ that its elasticity does not permit a great amount of tension.

Special attention should be called to the fact that there is no jaundice and the pain is in mid-line, and is often called gastralgia.

In this stage the attacks are intermittent, and at times disappear for years without intervening symptoms, in cases of this kind that

the various forms of medications have given rise to erroneous belief as to their curative properties.

Gallstones impacted in pelvis of gall bladder attack usually begins in the same manner as in the simple variety referred to. But the pain which in former attacks ceased fails to do so and is accompanied and followed by pain in the right rectus; the pain gradually abates, but the tenderness lasts several days, possibly weeks, and there may result the cystic gall bladder, the contents being a clear mucoid fluid. This fluid undergoes infection, perhaps, and may develop an empyema.

Temperature during an attack of gallstones impacted in cystic duct may go to 101 to 101½ degrees, but not often higher, for the fact that the only lymphatic gland capable of receiving the infection lies beyond the obstruction, and again on account of the distensibility of the gall bladder.

The average case after a few weeks of temperature speedily subsides, and the tumor becomes less noticeable; the contents are slowly absorbed. The stones may become firmly fixed in the contracted gall bladder and the patient develop a case of chronic dyspepsia, which defies treatment.

In other cases the stone gets into the cystic duct through pressure, and from there into the common duct, causing a new train of symptoms.

When distended by infected material the gall bladder often becomes adherent to the colon, duodenum or stomach; there may be a fistula form between gall bladder and intestine, or may perforate into free peritoneal cavity, or it may perforate upward and form a subdiaphragmatic abscess, or into pleural cavity, and by means of adhesions evacuate itself through a bronchus.

The rule is that all stones do not escape through a spontaneous fistula, but remain to cause further trouble.

Stones in the Cystic Duct.—The rule is that stones in the cystic duct do not cause complete obstruction and the gall bladder usually contains more or less bile.

When a stone moves in the gall bladder it is accompanied by pain.

There is a gradual tendency for the stone to become forced by the muscular contractions of the gall bladder into the common

duct. There will be repeated attacks or colic and local tenderness.

Impacted Stones in Cystic Duct.—They may spontaneously perforate usually into gastro-intestinal canal, and are prone to cause fistula. Perforation into the stomach, just above the pylorus is not uncommon and gives rise to acute piloric obstruction.

There are three somewhat rare varieties of stone in the cystic duct which develop certain marked symptoms.

(a). Partial obstruction with deficient drainage, plus rapid growth of bacteria, frequently belonging to the colon group. The infected bile is discharged intermittently. When it attacks the bile ducts it causes cholangitis, with chills, fever and sweating. When it attacks the pancreatic duct it causes acute pancreatitis and fatal neuroses. In very severe cases the gall bladder becomes distended, thin walled, and the bile has a strong fecal odor.

(b). Stones impacted in the cystic duct with a contracted, thick-walled gall bladder containing a thin, muco-purulent, infectious fluid, at irregular intervals, the patient will be seized with chills, fever and sweating, high temperature, 105 to 107 degrees.

The symptoms rapidly subside and are not accompanied by jaundice.

There are constant digestive disturbances with loss of weight. These peculiar symptoms ensue because the stone lies in a non-distensible duct with lymphatic glands on each side capable of active absorption of the infected material which is under tension.

(c). A stone impacted in the cystic duct with a contracted gall bladder may produce gastric symptoms, especially vomiting, indicating gastric or duodenal ulcers. Vomitus usually containing bile.

There is emaciation, which may be extreme. For the relief of stone in the cystic duct, other things being equal, the indicated operation is removal of the stones by cholecystectomy. If the gall bladder be simply drained after removal of cystic duct stones, a stricture may result, leading to intermittent colic, as the contained mucous secretions are forced down through the obstructed ducts or cause a mucous fistula to the surface from complete obstruction.

If the gall bladder contained bile and the stone can be removed without permanent in-

jury to the ducts, cholecystectomy will suffice. Should there be evidences of infection of the deeper ducts of the liver at the time of the operation, cholecystectomy is the safer operation, because it drains the liver ducts and removes hepatic tension.

In the large majority of cases stones in the hepatic ducts have had their origin in the gall bladder; the stones have passed from the gall bladder to the common duct, thence gaining access to the dilated hepatic ducts.

Hepatic duct stones may be classed with common duct stones, as they are always practically accompanied by such and are secondary.

Symptoms.—Attending passage of stone through ducts, the passage of stone is commonly attended by the symptoms of gall stone colic. The attack usually begins with violent pain in the right hypo-chondrium, with the focus of intensity in the region of the gall bladder. In some cases the pain is referred to the epigastrium or the lower thoracic region, or on both sides, or to the right mammary region; it may radiate toward the abdomen or back and occasionally to the right shoulder. It is usually agonizing and the patient rolls about in uncontrollable distress or he may twist his body to the right or sit with his knees and thighs strongly flexed and his body bent forward to relax the abdominal muscles. There may be temporary remissions of pain, which are followed by those of great violence.

The gall bladder is palpable and tender; the liver somewhat enlarged and tenderness over the hepatic area. Chilliness or chills, vomiting, profuse sweating and a rise of temperature, 103 or 104 degrees, and great relaxation occur.

In some cases marked by high fever there may be engorgement of spleen and febrile albuminuria. It is probable under these circumstances that there are bacterial invasion and acute cholecystitis. The fact that symptoms of gallstone colic can occur without the presence of gallstones must not be overlooked.

Jaundice is a common symptom; it does not occur, though, if stone is still in the cystic duct. The duration of an attack varies from a few hours to several days. When the stone escapes into the intestine the pain ceases abruptly, leaving, perhaps, a local tenderness which rapidly subsides.

Not rarely the stone lodges in the ampulla of vater and acts as ball valve, causing recurring attacks of pain and jaundice.

The swelling and tenderness of the gall bladder and liver are due to distention of these organs as result of bile, stasis. Rare accidents are rupture of gall bladder into peritoneal sac, and fatal syncope, palpitation and precordial. Distress may occur, while general convulsions and hysteric seizures are occasionally observed in neurotic subjects.

Direct diagnosis of biliary colic rests upon location of focus of pain, its radiation and its tenderness; the abrupt onset of the attack; vomiting, chills or chilliness, with fever, and the symptoms of obstructive jaundice, depending on the location of the stone.

The history of previous attacks is suggestive, but the presence of gallstones in the stools is conclusive. Their absence, however, is of negative importance in diagnosis. This may not be found due to faulty methods of examinations, to the return of stone into gall bladder which was engaged in cystic duct, to cessation of muscular spasm in the walls of duct, to the passage of the stone from the narrow cystic to wide common duct and its retention there and finally to the disintegration of the stone in the intestine.

The stools must be stirred with a large quantity of water and poured through a fine-meshed sieve. If not found, the stools should be examined for several days. Force should not be used in the examination, since the recently formed stones are soft and readily disintegrated in handling them. Seeds of various fruits, small fecal concretions, particles of bone and the rounded saponaceous masses voided after the ingestion of olive oil. These substances never contain cholesterin or bile pigment in quantity, nor do they present the internal structure of stone.

Differential Diagnosis.—In right-sided renal colic, the pain begins in the lumbar region and radiates toward the groin. There is retraction in male of testicle, and pain in the glans-penis; jaundice and tenderness in the region of gall bladder and fever are not usually present.

A calculous may be avoided by way of the urethra; gastric ulcer may suggest biliary colic. The pain usually follows the indigestion of food and is burning in character and is passed to the back. The vomiting is less urgent and the vomitus contains blood.

There is localized epigastric tenderness and anemia.

The pseudo biliary colic of nervous women may lead to an erroneous diagnosis. The pain is referred to the right shoulder and may radiate to the back or shoulder; it is dull and dragging, rather than colicky.

The attack follows emotional excitement or fatigue. There may be tenderness upon pressure, but jaundice does not occur. Intestinal colic may be relieved by belching, the passage of flatus or defecation. It is more generalized and less intense than biliary colic and not followed by jaundice. Lead colic may assimilate gallstone colic, but the occupation of the patient is suggestive, with stubborn constipation, the gingival line, wrist drop arteriosclerosis and albuminuria constitute the characteristic symptoms; complex jaundice is absent.

Symptoms caused by permanent obstruction of the ducts by gallstones may involve the cystic, hepatic or common ducts.

Obstruction of the Cystic Duct.—Occlusion of the cystic duct by a calculus or by the contraction of cicatrix following does not always cause dilatation, but is liable to be followed by dropsy of gall bladder (hydrops vesical). The tumor is cystic and gourd shaped, its normal extremity being at its connection with the liver.

In recent cases the contents are bile mixed with pus or muco-pus. In older cases a clear, thin mucus containing albumin of variable reaction to litmus.

The liver projects downward and may attain large dimensions. Unless fixed by adhesions it is freely movable from side to side, and when pushed backward turns to its original position as soon as pressure is withdrawn.

When the belly wall is thin and relaxed the outline of the gall bladder may be visible. Fluctuation may be elicited by light bimanual percussion and palpation, and, when many calculi are present, crepitus may be felt.

Atrophy of gall bladder frequently follows dropsy of gall bladder. The contents undergo resorption and the bladder contracts around any stone that may be present, or, in the absence of a stone, into a small, fibrous

mass, or there may be diverticula in which calculi are embedded.

In old cases of this kind lime salts are sometimes deposited upon the mucosa or in the bladder walls.

Ulcerative lesions caused by gallstone and biliary fistulas are far from uncommon. Ulceration of the bile passages may occur without symptoms. As a rule they tend to grave derangements of health, by erosions of arterial branches in the course of the formation of fistulous tracts in various directions; they may cause hemorrhages, which may be latent or manifest in the stools or vomitus. In rare instances gallstones have perforated into portal vein. Much more common are fistulous communication with the intestinal tract. Rarely the stomach, frequently the duodenum, the small intestines less commonly. While fistulous communication with the colon have been encountered, there are instances of fistula involving the ureters, with passage of stone into the bladder.

Perforation into the pleura and lung may occur. Cutaneous fistula of spontaneous origin are very uncommon, though they are by no means rare after operation. They usually open in the region of the fundus of the gall bladder, but may appear near the umbilicus or above the pubes. These tracts are often long and tortuous; sometimes there are diverticula containing gallstones; abscess formation is common.

Prognosis.—The fact that in a large majority of cases no symptoms occur, and that the diagnosis is so often simply a post-mortem finding, justifies the assertion that cholelithiasis is a benign disease.

Although it is so often latent, it is not free from danger. On the contrary, the migration of stones by way of natural passages and to a greater degree by artificial channels caused by ulceration and adhesions may be attended by great suffering and risk of life. Even under these circumstances the outlook is not wholly unfavorable.

When infection of the bile passages and gall bladder has taken place with septic fever, especially when empyema of the gall bladder, suppurative cholangitis or abscess of the liver has occurred as a complication, the prognosis is highly unfavorable.

The general recognition that cholelithiasis is a surgical disease has rendered the prognosis far more favorable than it was when sole dependence was placed upon drugs and mineral waters.

Cholecystitis (Acute, Chronic, Calculous, Noncalculous).—Acute cholecystitis is an inflammation of the gall bladder (usually infective). It is commonly due to gallstones, although it results as a bacterial invasion in the absence of cholelithiasis.

Three varieties are recognized: First, catarrhal; second, suppurative; third, phlegmonous.

Representing different degrees of infection, cholecystitis may exist without gallstones, but the latter condition is dependent on the former. The lesions are catarrhal or suppurative and cholangitis may be associated.

The cystic duct is often occluded. The gall bladder progressively enlarges and becomes filled with muco-purulent or purulent material (rarely hemorrhagic); ulcers may co-exist, and perforation, followed by localized peritonitis, abscess or diffuse general peritonitis.

The enlargement takes place upward and inward and there is no palpable tumor. In subacute cases of long duration, distention may be prevented by fibrous thickening of the walls, and adhesions with the liver, omentum or colon may take place. In nearly all cases of gall bladder disease, extensive adhesions are to be expected, and it is rather surprising that they so rarely give rise to symptoms.

Symptoms.—In the milder forms there may be simply some tumefaction with dullness, circumscribed tenderness and a rise of temperature; this form is common in typhoid fever.

The severe form, the onset, is abrupt with intense paroxysmal pain in the region of the gall bladder, epigastrium or right upper quadrant of the abdomen. With this are nausea and vomiting, arrest of peristalsis, rigidity of muscles of abdomen, especially the right rectus, and fever.

Though fever is not always present, in many cases a tumor, a firm, pear-shaped or a mere resisting mass below costal margin.

Extreme tenderness may interfere with palpation of the mass. Jaundice occurred

in 17 out of 58 cases, though is usually absent in cases in which gallstones do not occur. The pulse becomes rapid and feeble.

Abdomen distended and prostration profound. In the suppurative form the blood may show leucocytosis. This serious affection may be entirely latent.

Diagnosis.—The milder forms are readily recognized in the more severe cases. The condition is often obscure; the anamnesis is often important.

The above symptom complex occurring in a patient who has had attacks of hepatic colic or cholecystitis, or who is convalescent from either fever or pneumonia, is significant. The recurrent forms are readily diagnosed. It is important to remember that cholecystitis may occur without gallstone disease.

Differential Diagnosis.—The condition may simulate acute obstruction of the bowels or appendicitis. While these conditions may be differentiated from acute cholecystitis by characteristic symptoms in a large proportion of the cases, there are instances in the actual organ affected that can only be revealed upon operation.

Prognosis.—The outlook depends entirely upon the intensity of the inflammation; the purulent and phlegmonous forms are usually fatal. Timely surgical operation may be the means of saving life. The danger of perforation is to be constantly borne in mind.

Chronic Cholecystitis (Noncalculous).—The common cause of chronic cholecystitis is cholelithiasis. The disease may arise in consequence of the extension of the inflammation in cholangitis.

The muscular and connective tissue elements of the wall are involved. When the contents undergo resorption or escape through the wall by way of fistulous opening or escape through cystic duct, the thickened wall contracts and the gall bladder becomes permanently reduced in size. The walls, under the circumstances, are the seat of calcareous degeneration.

Peri-cholecystitis may develop with diffuse swelling around the organ and later fluctuation. The cystic duct may be occluded by cicatrices or by a calculus. The bile is then absorbed. The mucous membrane continues to secrete an abnormal mucus and the gall

bladder undergoes gradual distension with thickening of its walls and sometimes more or less adhesions. The contained liquid may be light in color and bile free.

Dropsy of the gall bladder, or it may be pus empyema. Gallstones are frequently present.

Symptoms.—When the dilatation is slight the gall bladder extends below the border of the liver, but cannot be palpated unless the abdominal walls are thin. As enlargement proceeds it forms a palpable pear-shaped tumor, movable from side to side, and may be displaced backward by moderate pressure, but resumes its position when pressure is withdrawn. The enlarged gall bladder moves upward and downward with the respiratory movements of the diaphragm and partakes of the movements of the liver. It may be greatly enlarged and elongated and instances have been noted where the contents amounted to over 11 quarts, when the fundus presents toward the abdominal wall and a loop of intestine has found its way between the fundus and liver. The condition may simulate an echinococcus (hydatid) or ovarian cyst or hydro-nephrosis. If the abdominal walls are thin and relaxed, the tumor formed by the dilated gall bladder may be visible. Urgent as the symptoms attending the disease which caused the dilatation may have been, the condition itself seems no important subjective symptom.

The pain and tenderness which are usually present are commonly caused by adhesions and peritonitis.

Diagnosis may be difficult. The anamnesis, the palpable visible tumor connected with the liver and partaking of its movements, its cystic nature, its elasticity, its gourd-shaped outline, its mobility and tendency to at once resume the position from which it has been manipulated, constitutes adequate data for a positive diagnosis.

The nature of the contents can only be ascertained by removal, and for this purpose an exploratory celiotomy can be performed. Never a puncture which would be attended with the danger of an escape of a portion of fluid in peritoneal cavity.

Differential diagnosis from an echinococcus cyst is attended with great difficulty. The hemispherical forms, the restricted movements and the hydatid thrill are significant.

The deeper origin, the relatively slighter mobility, except in flooding kidney, and the outlines are of diagnostic importance and serve to distinguish from floating kidney, together with the occasional disappearance of the tumor and great depression seen in intermittent hydronephrosis, would be distinctive.

Ovarian cysts spring from the pelvis and can be shown by vaginal bimanual examination to be connected with the uterus and not with the liver.

Prognosis.—In many cases favorable after the tumor has ceased to enlarge and is of moderate size. The inconvenience resulting from its presence and pressure upon adjacent organs and the dangers of adhesions and fistula formation and the danger of rupture justify drainage or excision, which is often followed by complete restoration to health.

Treatment.—Causing stricture. Cholecystectomy is indicated in all cases of gallstone disease in which the cystic duct is insufficient to afford drainage. It should also be removed in all cases of malignant disease when it is thick-walled, and in all those cases in which, as a result of disease or injury, it will not become a fit receptacle for bile.

In over 1,800 operations upon the gall bladder and bile passages, in 1,200 of which the gall bladder was not removed, there was but a single case in which the stones reformed.

Cholecystenterostomy is an operation which has a considerable field of usefulness, both as a palliative and as an operation for radical cure. If a stricture forms below the cystic duct, which cannot be removed, the usual method is to join the fundus of the gall bladder to the duodenum. In case the duodenum is bound down with adhesions, the gall bladder has been united to the stomach just above the pylorus.

A loop of jejunum may be selected, and if this is selected it is wise to join the loop of intestine together after the gall bladder and intestine has been united.

A third method is to use the transverse colon at the hepatic flexure. This apparently is a bad operation, on account of the bacteria in the colon, but the antiseptic effect of the bile seems to make the operation satisfactory.

In this case the influence of the bile on intestinal digestion is lost and its influence on the pancreatic secretion is most valuable. Anastomosis with the large intestine is easy

and the method of anastomosis employed is usually by means of the Murphy button.

In case of stricture of cystic duct, cholecystectomy should be performed. Strictures of common duct are rare, though much more serious.

Cholecystostomy we consider the normal operation for cholecystitis. It is indicated in all cases in which the gall bladder is not seriously damaged and in which removal of calculi will leave the cystic duct free.

It is also the operation of choice in diseases of the common duct and when the ducts of the liver are infected. First, because bile drainage is an essential factor in the relief of the patient, and second, for the reason that gallstone disease of the deep ducts is especially liable to subsequent infections. If so, the gall bladder is a reliable guide to the deep ducts. It is also valuable for a cholecystenterostomy, should stricture of the common duct develop.

Stones in the cystic duct usually indicate cholecystectomy, but if by reason of infection of the deep ducts it is desirable to save the gall bladder, the cystic duct should be exposed and incised in its longitudinal axis and the stone removed. Stones in the ducts should not be crushed, as the fragments left behind may become nuclei for new stone formation and the duct walls may be injured.

Surgical interference in gallstone disease should be instituted as soon as the diagnosis can be made.

The mortality for simple gallstone disease does not exceed one-third of one per cent, and all conditions for which operations are confined to gall bladder does not average two per cent. The best time to operate is while gallstones are in their normal habitat in gall bladder. In 1,800 operations by Mayo, one in six cases had permitted the favorable time to go by.

Remarks of Technique.—Operating Table.—Some provision should be made for elevating the lower chest to throw out and increase the abdominal aspect of the subcostal opening. A sandbag 16 inches in circumference and 24 inches long is ordinarily used. A special elevator is used on many tables, operated by a ratchet.

Curved artery forceps, a retractor of the Simpson type, and for work around the deep ducts the smooth, curved retractors of Dea-

ver are very useful. As a matter of fact, though, little retraction is needed.

The long needle forceps of Murphy and the small, stout, catgut needle of Ferguson type.

The best gall bladder scoop is that of Robson, and for special purposes the one of Finney, which has a long, thin shank, is useful in removing stones from deep situations. A gallstone forcep modified from Blake's is useful.

For draining gall bladder a quarter-inch rubber tube wrapped with four thicknesses of iodoform gauze and rubber tissue rolled about this is excellent for drainage of gall bladder.

On placing this in the gall bladder the walls can be tied sufficiently tight around the packing about the rubber tube to render it bile-tight without interfering with the carrying capacity of the tube itself.

The tube is held in position by a purse string suture of catgut, which is passed through the gauze wrappings, holding a few days until the catgut dissolves. For drainage outside the gall bladder, the split rubber tube of Robson, ordinary size rubber tube and packed with strip of five per cent iodoform gauze, or the cigarette drain composed of gauze wrapped with rubber tissue, may be used with advantage. For the common duct the fish tail tube of Binnie is preferred; two notches are cut one-half inch deep opposite each other at one end of tube. This is introduced into tumor of large duct. The bile passes underneath the tube and out through the common duct onto the duodenum, while the tube itself prevents free drainage and prevents tension. The drainage tube is attached by a piece of glass tubing about one and one-half inches long to a short piece of rubber tubing, which leads to an eight-ounce flask and acts as a receptacle to catch the bile. A boiled bottle is replaced once, twice or oftener a day.

The intestines are kept back during operation by 8x10-inch square of gauze, with a tape attached. The space in front of liver and about foramen of Winslow is protected by strips of gauze one yard long and one-half yard wide.

If patient is jaundiced, a good plan is that of Robson: 80 grains of calcium chloride in divided doses each day for two days before

operation, or thyroid extract as recommended by W. J. Mayo to prevent hemorrhage from the lessened coagulability of the blood from the bile. The open drop method of anesthesia is preferred.

It is well to remember that a grunting respiration is caused by manipulation of the neck of gall bladder, and also spasm of the diaphragm that is not stopped by deep anesthesia without danger to the patient.

Operation.—I think the Bevan, Mayo and Robson incision more nearly meets the demand for all operations on the gall bladder and ducts than any method or incision so far described. Vertical incision over middle of the right rectus muscle; separate the anterior sheath and fibers of muscle with fingers or handle of knife; divide posterior sheath of rectus and the peritoneum together. This incision should be three to four inches in length. When it is necessary to explore the hepatic, common, cystic or deeper structures, continue the incision upward, following the costal margin as far as possible in the space between the ensiform cartilage and the right costal margin.

It freely exposes the upper surface of the liver; can lift lower border of liver in bulk, drawing liver downward from under ribs, thus bringing the gall bladder, cystic and common ducts close to the surface. By gentle traction on gall bladder, parts can be kept well exposed and protected. Gauze pack can be adjusted in left side of incision to protect and keep other viscera out of field of view.

It will readily be observed that instead of the gall bladder and cystic duct making a considerable angle with the common duct, an almost straight passage is formed from the fundus of the gall bladder to the entrance of the bile duct into the duodenum, and if adhesions have been thoroughly separated, the operator has immediately under his observation the whole length of the ducts with the head of the pancreas and the duodenum.

The latter detail has been emphasized by Robson, to whom we owe so much. At the extreme upper angle the anterior mediastinum may be opened, causing air to rush in and out, leading to the belief that the pleural cavity has been opened.

Should the fundus of gall bladder lie far out, the lower angle of incision is carried outward by Bevan in similar manner, securing a wider space.

In carrying this out, Mayo cuts the aponeurosis only of rectus front and back, and retracts muscle without cutting.

In all operations about the bile, before closing the abdominal incision a very careful arrangement of the visera should be made. The small intestines should not be allowed to come in contact with the infected area.

The stomach and duodenum depend on their mobility for their functions; therefore, they should be prevented from coming in contact with denuded areas and forming adhesion. This protection is afforded by the omentum and transverse colon. These structures are carried up and placed between gall bladder and the ducts and abdominal cavity, and held, if necessary, in this position by couple of catgut sutures.

I performed operation by this incision method some months ago in a case of cholecystectomy, caused by pressure and obstruction of echinococcus cysts of the liver. Liver was entirely covered with these cysts.

Patient had exploratory operation some three years before, and was informed that his liver was malignant.

Patient was suffering from a chronic cholecystitis, due to pressure of cysts, through said incision.

I was able to break up cysts encroaching and pressing gall bladder, also to free gall bladder from all adhesions and attachments to liver. Gall bladder from distention due to pressure and obstruction of ducts was greatly distended, perhaps double the size of normal bladder.

I removed or amputated about one-half of bladder, attaching stump or remaining portion of bladder, with external drainage in upper margin of incision near median line. Had union by first intention, and patient made splendid recovery, so far as his cholecystitis was concerned, but still has one of the most typical and symmetrically covered livers with echinococcus cysts that I have ever seen. He lives in Coffeyville, Kan., and writes me that he has not suffered at all since operation.

Discussion.

Dr. Thibault (Scott's)—Dr. Smith's paper, of course, deals principally with the surgical side of cholecystitis, both acute and chronic. I simply want to bring out the point that careful experiments on both human and animal subjects have shown that hexamethy-

leneamina is excreted by the mucous membrane of the gall bladder. This has been experimented with not only on the lower animals, but on human subjects on whom cholecystostomys have been performed, and it is found that it is secreted in probably as large a per cent by the lining membrane of the gall bladder as it is by the genito-urinary system. The fact of the business is that in its disintegration it sets free probably a certain amount of formaldehyde, and this acts as an antiseptic in the gall bladder. Of course, it is taken for granted the fact that cholecystitis and cholelithiasis have at the bottom of the process infection. Therefore, as a prophylaxis against this trouble following typhoid fever, pneumonia and other infectious diseases that are so liable to be followed by cholecystitis, it seems to me that we ought to try to prevent it by the destruction of the infecting bacteria. Of course, the discovery of the fact that it is secreted by the mucous membrane of the gall bladder is comparatively new, and it will be some time before we collect clinical statistics sufficient to make an estimate of its value.

Dr. Williams (Pine Bluff)—I must say that I enjoyed the doctor's paper exceedingly,

and it was very instructive. But the idea occurred to me, it is original. I have no authority for the suggestion, and it's merely a suggestion, that not only should cholecystectomy be done in the case of cholecystitis, but in the case of cholelithiasis a cholecystectomy should be done to prevent the future formation of gallstones. I believe that it would be indicated in every case. What is the use to do a cholecystenterostomy after a history of gallstones? For the same process that prevails that was productive of the formation of those gallstones still exists, and would be a source of future trouble. I believe that the idea would be, and the proper thing to do in all these cases—understand, I have no authority for it—would be to remove the gall bladder and cystic duct.

Dr. Smith—I will say in answer to the doctor's query that it has been found by careful study and experience that gallstones are not primarily the cause of cholecystitis, but are a troublesome factor in chronic cases. I think the points discussed by Drs. Thibault and Williams are quite fully brought out in the paper, therefore a fair discussion from a doctor's standpoint or response from me could not obtain.

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All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notice of deaths, removals from the State, changes of location, etc., are requested.

ADVERTISING RATES.

A schedule of rates will be furnished upon request.

CHANGE OF ADDRESS.

Change of address will be made if the old as well as the new address be given.

ANONYMOUS COMMUNICATIONS.

No anonymous communications will appear in the columns of this Journal, no matter how meritorious they may be.

NOTICE.

All changes of address should be sent to Dr. Morgan Smith, secretary of the State Society, as he furnishes the mailing list each month of our members. All communications for publication should be sent to the editor not later than the 5th of each month.

EDITORIAL.

Having served you as editor of the Journal for the past two years, I wish to thank those of you who have assisted me.

To the council and secretaries of the county societies I wish to say a few words. The Journal is run under the supervision of the council, and it is their duty to assist in its management and help in its upbuilding. I trust they will do more in the future than they have in the past, for during my two years' editorship, individually or collectively, I never heard from them. I bespeak for my successor their hearty and zealous co-operation.

The county secretaries can do more toward making a good Journal than can your editor. The State Journal is published for the benefit of the members of the Arkansas Medical

Society, and in no way can they be better served than by being informed of the trend of medical thought and of what the profession of the State is doing. To my mind, an important part of the county secretary's duty is to furnish the editor every month with a report of everything going on in his county that pertains to the medical profession.

I hope you will help Dr. Niehuss to make the Journal of the Arkansas Medical Society the best State Journal in the Union.

For honoring me with the secretaryship of the State Society I wish to thank you, and I shall earnestly endeavor to prove worthy of the confidence reposed in me.

Sincerely,

C. P. Meriwether.

THE FORT SMITH MEETING.

The thirty-fifth annual session of the Arkansas Medical Society was one of the most successful ever held in the history of the society. The attendance was large, the weather ideal and the welcome most hearty.

The Sebastian County Medical County is to be congratulated on the thorough manner in which every detail was provided for. The social features were well timed and appropriate and were enjoyed by all to the fullest extent. The Entertainment Committee were vigilant, energetic and zealous in their effort to see that everybody was comfortable and having a good time. So cordial was the greeting, so warm the welcome, so evidently genuine the sympathy and co-operation evinced by the local profession and laity that every visitor regretted his stay could not be extended.

The leading morning daily published full and accurate reports of the proceedings and assisted the local committee in every way tending to make the meeting interesting and helpful.

"Tuberculosis" was the subject of the public meeting in the auditorium of the Girls' High School, held under the auspices of the Section on State Medicine and Public Hygiene. It was well attended. Much interest was manifested and free discussion elicited. Great public good will undoubtedly result. The chairman's address and the essays were acknowledged to be the best ever listened to. Each speaker dealt squarely with his subject.

The arguments advanced were so sound and the reasoning so cogent that objection could not be successfully urged against any of the findings.

Business matters received careful consideration and excellent plans were set in motion for the maintenance of the Journal and enlarging its scope of usefulness and influence. Better and more extended organization will be realized if the effort in contemplation receives the hearty support and co-operation of medical men throughout the State.

The secretary's report showed no apparent dissensions anywhere. The treasurer reported a very satisfactory financial status, with a comfortable balance on hand at the close of the year.

The address of the retiring president combined excellence and succinctness and his sound advice was duly appreciated. The new president, with characteristic modesty, acknowledged the honor conferred, gave assurance of his best efforts for better general conditions and asked all to lend a helping hand or a word of encouragement toward making his administration approach the ideal.

In the spacious dining hall of the Hotel Goldman a banquet to the visiting members was tendered. The substantial were delicious, the menu well chosen and the service excellent. The toasts comprised a symposium on "The Doctor," from many viewpoints. The responses were varied and vivacious. Every speaker seemed to be in his best vein and acquitted himself admirably. Good humor and good cheer prevailed throughout, and the unanimous verdict was that Fort Smith had set the pace. The recollection of this happy event will long be a bright spot in the memories of those who were so fortunate as to participate.

THE USE OF DIGIPURATUM IN HEART DISEASE.

William F. Boos, L. H. Newburgh and H. K. Marx, in a paper published in the April issue of the Archives of Internal Medicine, discuss the great differences observed in the pharmacological strength of digitalis leaves and their preparations. The efficiency is said to depend greatly upon the soil, the gathering season, the method of collecting

and drying the leaves and the methods used in preserving the dried product. For a time it seemed as if the pure active principles of digitalis would be reliable substitutes for the galenical preparations, but it was soon evident that neither digitalin nor digitoxin alone could produce the true digitalis effect obtainable from the leaf preparations. These facts show the need of leaf preparations of known strength. As the fluid preparations do not retain their original strength so readily, the dry standardized products are preferable. In digipuratum, a dry digitalis extract, was found free from the harmful digitonin and 85 per cent of the bulky and inactive matter. The drug is standardized by means of the frog experiment so as to be equal in strength to the equivalent amount of potent leaves, this strength being uniform.

Digipuratum was employed extensively by the authors in the medical services of the Massachusetts General Hospital. Eight cases are quoted and tabulated, showing interesting features. The diuresis was efficient in all cases and a marked effect on the pulse rate was usually present. One case was sent to the hospital in a moribund condition, but reacted very quickly to the drug, so that compensation was re-established in a week. The digipuratum was usually given in the form of treatments of 12 tablets each, and while in some cases the first treatment gave little or no result, the second was always very efficient. Good results may often be obtained by combining the medication with venesection, the removal of fluid by tapping or by combining the digipuratum with other drugs, such as diuretin or apocynum.

Digipuratum has now been used in the Massachusetts General Hospital for over a year and more than 180 cases of primary heart disease or secondary cardiac involvement have been treated with it. The effect on the urinary output has been very prompt in most instances. There was not a single case of vomiting or diarrhea; in fact, the vomiting of a number of cardiac cases at entrance was promptly stopped by digipuratum. Cumulative poisoning was never observed. One of the early patients, a boy of 16, was given 106 tablets in six weeks; at no time was there any suggestion of digitalis poisoning. In one or two instances the house officers were made uneasy by sudden drops of forty or more beats in the pulse rate, but

no disagreeable consequences followed in any case. It must be remembered, naturally, that digipuratum is a digitalis preparation, but the tendency to produce poisoning is much diminished so that it is possible by means of this drug of reliable strength to push digitalis therapy in a manner hitherto unknown.

CLINICS ON SPONDYLOTHERAPY.

Dr. Albert Abrams announces a series of five clinics on the principles of Spondylotherapy, to be given in San Francisco during five days following the session of the American Medical Association at Los Angeles.

The clinics will be free to members of the association. In these clinics will be demonstrated Abrams' new and original methods of diagnosis, and there will be an exhibition of patients who have been symptomatically cured of aneurisms (thoracic and abdominal), myocardial affections, pulmonary tuberculosis and other diseases in a period of time almost incredible, by simple methods, which can be easily executed by any physician.

Spondylotherapy is essentially physiologic therapeutics, based on clinical physiology, i. e., the study of human physiology by clinical observations. Progressive medicine is not wholly an achievement of the laboratory, and the undersigned will demonstrate how the functional centers of the spinal cord may be stimulated or inhibited in the human subject with the same certainty as is done by the vivisectional experimentalist.

Insomuch as the space for the clinics is limited, only those members will be admitted who have applied for cards of admission.

In writing, please to mention the time of arrival in San Francisco and the duration of sojourn, so that the time and duration of the clinics may be arranged to conform to the wishes of the majority of the applicants. Address Dr. Albert Abrams, 246 Powell Street, San Francisco, Cal.

News Items.

Dr. B. J. Vance of Cheatah, Okla., visited the U. C. V. Reunion at Little Rock and on the 19th came to Harrison, his old home, to visit relatives and friends. The doctor is ex-president of the Oklahoma State Medical Association and enjoys a large practice.

Dr. Luther Callen, late of Marble, Madison County, Ark., has recently located in Bellefonte.

Dr. C. D. Leister of Higden, Ark., has recently located in Bellefonte.

F. B. Kirby, M. D.

Deaths.

Dr. Garland J. Watkins of Bellefonte, Ark., died at his home on May 1, 1911. He was a member and ex-president of the Boone County Medical Society and a member of the Arkansas State Medical Society. Born in Carrollton, Ark., September 8, 1875. Graduate of the medical department of A. I. U. of Little Rock, Ark., class 1897. The doctor had a lucrative practice and was well liked.

Births.

Born—To Dr. and Mrs. R. C. Kennerly of Millville, Ark., on April 27, a boy.

County Societies.

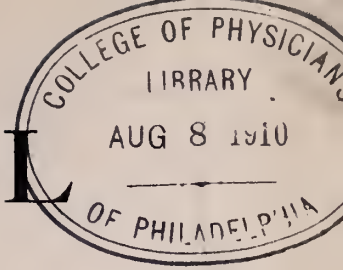
The following communication addressed to the secretary was received from Crawford County:

"Van Buren, Ark., May 16, 1911.

"The Crawford County Medical Society invites you to a social session on Thursday, May 25. Luncheon at Mount Vista at 12:30 p. m.

"R. S. V. P. card attached.

"Committee."



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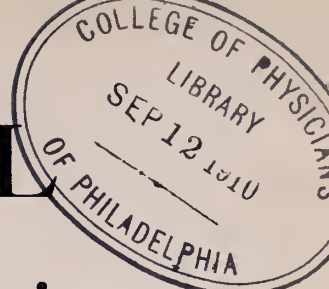
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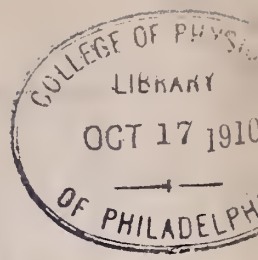
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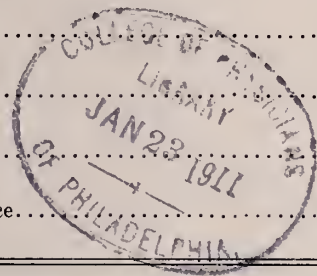
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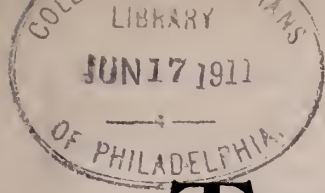
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